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U. S. Department of Agriculture

VOLUME NO. 2

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EXPLANATORY NOTES

OF

INCREASES, DECREASES, AND CHANGES IN LANGUAGES

IN THE BUDGET FOR THE

DEPARTMENT OF AGRICULTURE

FOR THE

FISCAL YEAR ENDING JUNE 30, 1934

AND OF

WORK DONE UNDER EACH OF THE APPROPRIATION ITEMS

BUREAU OF CHEMISTRY AND SOILS(a) GENERAL ADMINISTRATION

Appropriation, 1932 \$97,600

Appropriation, 1933 96,720

Budget Estimate, 1934 89,903

Decrease 6,817

PROJECT STATEMENT

Projects	Expended 1932	Estimated 1933	Estimated 1934	Decrease
General Administration ...	\$87,309	\$96,720	\$89,903	\$6,817 (1)

(1) The decrease of \$6,817 is explained as follows:

a. Apparent increase of \$200 by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

b. \$7,017 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

AUG 2 1938
This appropriation provides for the salaries and expenses of the office of the Chief of Bureau and the business organization units such as Accounting, Personnel, Editorial, Supplies, etc. It is for the purpose of maintaining general administration and direction of the Bureau.

(b) AGRICULTURAL CHEMICAL INVESTIGATIONS

Appropriation 1932 \$501,075

Appropriation, 1933 453,699

Budget Estimate, 1934 426,238

Decrease 27,461

PROJECT STATEMENT

Projects	Expended 1932	Estimated 1933	Estimated 1934	Increase or decrease
Carbohydrates	\$83,820	\$86,410	\$86,470	\$ + 60 (1)
Food Research	111,300	114,100	114,180	+ 80 (1)
Fruit and Vegetable By-Products	68,340	70,975	70,975	- - -
Industrial Farm Products	102,877	105,920	105,980	+ 60 (1)
Lignin	14,275	14,755	14,755	- - -
Oil, Fat and Wax	11,026	11,364	11,364	- - -
Protein and Nutrition	33,935	35,075	35,075	- - -
Farm Fires	13,330	15,100	15,100	- - -
Legislative furlough deduction..	- - -	- - -	-27,661	-27,661 (2)
Total	438,903	453,699	426,238	-27,461

The decrease of \$27,461 is explained as follows:

(1) Apparent increase of \$200 by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$27,661 reduction on account of continuation of legislative furlough.

AUG 2 1938

Charles S. Brown

WORK UNDER THIS APPROPRIATION

The activities under this appropriation involve the application of chemistry to agriculture to further the utilization of agricultural products, including the raw materials and the waste products therefrom; development of industrial uses for agricultural products; improvement of methods of handling and preparation of known products and development of new products having commercial value; reducing wastes; and preventing losses from spoilage, deterioration, and destruction. The work includes studies on carbohydrate crops and products, such as sugarcane, sugar beets, farm-made sirups, honey, and starchy plants; chemical investigations of foods, of the biological changes in raw and manufactured foods, of the causes of deterioration of foods, and of methods of preservation; development of profitable uses for fruit and vegetable by-products, surpluses and waste materials; study of the nutritive value of foods and feedstuffs with special reference to their protein and vitamin content; investigations of hides and skins, tanning materials, leather, farm fabrics, paper, and farm wastes such as cornstalks, straw and hulls; research on lignin; investigation of oils, fats, and waxes, including the development of new sources and recovery from agricultural waste products; studies on the spontaneous heating of hay and other agricultural products; and the prevention of farm fires.

Field laboratories for the fruit and vegetable by-products investigations are maintained at Los Angeles, Calif., Winter Haven, Fla., and Weslaco, Tex., where the problems are studied in relation to the conditions peculiar to each region. The work on utilization of cornstalks and similar farm wastes is carried on at Ames, Iowa, in cooperation with the Iowa State College.

(c) COLOR INVESTIGATIONS

Appropriation, 1932..... \$93,460

Appropriation, 1933..... 75,000

Budget Estimate, 1934..... 69,730

Decrease 5,270

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Color Investigations.....	\$90,551	\$75,000	\$69,730	\$5,270 (1)
(1) <u>\$5,270 reduction</u> on account of continuation of legislative furlough.				

WORK UNDER THIS APPROPRIATION

The work under this appropriation includes studies on vat dyes, the analysis and synthesis of biological stains, and the utilization of molds and other organisms in the production, by fermentation, of chemicals from agricultural products. The work on vat dyes consists of the study of the fundamental details of dye synthesis, the preparation of new vat-dye intermediates, and improvement of existing methods used in the production of known valuable intermediates, with the object of developing broader markets for agricultural products, such as cotton, through its utilization in ways recently made pos-

sible by the application of these new dyes. This work also points the way to new fields for the production of dyes to reduce dependence on dyes from foreign sources. The work on biological stains includes testing and certification of stains and the synthesis of new stains for medicinal application and for agricultural and other research. The work on fermentations consists of study of the action of various microorganisms on carbohydrates and other agricultural materials for the production of chemicals, working out the optimum conditions for formation of the desired products, and semiplant scale development of promising processes.

(d) INSECTICIDES AND FUNGICIDES INVESTIGATIONS

Appropriation, 1932 \$128,400

Appropriation, 1933 117,300

Budget Estimate, 1934 109,563

Decrease 7,737

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Organic Insecticides and Fungicides	\$78,384	\$81,800	\$81,800	- - -
Inorganic Insecticides and Fungicides	33,315	35,500	35,500	- - -
Legislative furlough deduction	- - -	- - -	- 7,737	\$7,737
Total	111,699	117,300	109,563	7,737 (1)

(1) \$7,737 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Under this appropriation chemical and technological research is carried on with the object of developing new materials that are more effective in preventing, destroying, repelling, or mitigating injurious insects and fungi, that are cheaper, less hazardous to operators, less poisonous to those eating sprayed fruits and vegetables, and less injurious to vegetation than the insecticides and fungicides now in use; determining their physical and chemical properties so that they may be more effectively employed; devising cheaper methods of manufacturing them; originating and improving methods of analyzing them; studying their pharmacological and toxicological action upon man and domestic animals; and compiling and disseminating all pertinent information regarding them. Studies are also made of the most effective chemical means of removing harmful spray residues from fruit and vegetables that have been treated with compounds containing arsenic, lead, copper, fluorine, nicotine, or other insecticidal and fungicidal material.

Field laboratories for insecticides work are located at Wenatchee, Wash., Whittier, Calif., and New Orleans, La. Work on the problem of spray residue removal is conducted at the Wenatchee, Wash., laboratory, where are also tested out the new materials being developed to combat the codling moth and perennial canker; at Whittier, Calif., citrus fumigation problems are studied; and at New Orleans, La., investigations are made on oil emulsions for the control of scale insects. Close cooperation is maintained with the Bureaus of Entomology and Plant Industry.

(e) PLANT DUST EXPLOSIONSAppropriation, 1932..... \$36,500

Appropriation, 1933..... 36,190
Budget Estimate, 1934..... 33,880
Decrease 2,310

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Dust Explosions.....	\$36,277	\$36,190	\$33,880	-\$2,310 (1)

(1) \$2,310 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Work under this appropriation consists of studies of dust explosions and explosion hazards in grain-handling operations and in industrial plants handling products of agricultural origin; experimental chemical research and development work on the prevention of dust explosions and resulting fires, including fires in cotton gins, cotton oil mills, and grain elevators; and the practical application of the results of the research. Special attention is being given to the development of safety codes for dust explosion prevention. Active cooperation is carried on with industrial companies, insurance organizations, State commissions, fire prevention associations, safety organizations, and other interested agencies. These investigations relate directly to the saving of lives, property, and food stuffs.

(f) NAVAL STORES INVESTIGATIONSAppropriation, 1932..... \$72,306

Appropriation, 1933..... 68,406
Budget Estimate, 1934..... 65,106
Decrease 3,300

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Naval Stores Investigations ...	\$29,985	\$31,306	\$31,306	- - -
Naval Stores Station	35,540	37,100	37,100	- - -
Legislative furlough deduction.	- - -	- - -	- 3,300	\$ 3,300
Total	65,525	68,406	65,106	3,300 (1)

(1) \$3,300 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The purposes of the work under this appropriation are to improve agricultural-chemical-technological practices, processes, and equipment for the production of turpentine, rosin, and related products so as to prevent deterioration and wastes, reduce costs of production, and obtain products of better quality; and to promote the utilization of turpentine and rosin and related products through fundamental studies of their chemical composition and proper-

REPORT OF THE

COMMISSIONERS OF THE LAND OFFICE

IN RESPONSE TO A RESOLUTION PASSED BY THE
LEGISLATIVE ASSEMBLY OF THE PROVINCE OF ALBERTA
ON JANUARY 14, 1908

ALBERTA, CANADA
PRINTED BY THE GOVERNMENT OF ALBERTA
EDMONTON, ALBERTA
1908

THE LAND OFFICE HAS THE HONOR TO ACKNOWLEDGE THE RECEIPT OF THE
REPORT OF THE COMMISSIONERS OF THE LAND OFFICE IN RESPONSE TO A
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products through fundamental studies of their chemical composition and properties, and through applied chemical research to develop processes and equipment for making new and improving established products. Naval stores are produced by a large number of small farmers, landowners, and operators in the South. The methods and equipment in use are in most cases antiquated, damaging to the products, and wasteful. A naval stores station for research and demonstrational work on these problems is being established in the pine region of the South on the Osceola National Forest for the better conduct of these investigations.

Researches on naval stores are conducted by both the Bureau of Chemistry and Soils and the Forest Service. The Bureau of Chemistry and Soils conducts research on distillation, refinement, and uses of products--that is, after the gum is taken from the tree. The Forest Service covers the forest or woods phase of naval stores work up to the time the gum is taken from the tree.

(g) FERTILIZER INVESTIGATIONS

Appropriation, 1932..... \$370,835

<u>Appropriation, 1933</u>	358,535
<u>Budget Estimate, 1934</u>	<u>330,987</u>
<u>Decrease</u>	27,548

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Catalysts in Nitrogen				
Fertilizer Investigations.	\$41,075	\$42,700	\$42,260	\$440
Transformation of Nitrogen				
Compounds.....	41,484	43,200	42,725	475
Biochemical and Organic				
Investigations.....	34,625	34,595	34,220	375
Physics and Chemical-				
Fertilizer Investigations.	75,600	75,240	74,470	770
Phosphate Fertilizer Inves-				
tigations.....	37,450	38,205	37,790	415
Potash Fertilizer Investiga-				
tions.....	46,135	45,510	45,000	510
Concentrated Fertilizer				
Investigations.....	78,290	79,085	78,270	815
Legislative furlough deduction	- -	- - -	-23,748	27,748
Total.....	354,659	358,535	330,987	27,548 (1)

(1) Apparent decrease of \$27,548 is explained as follows: (a) Decrease of \$3,900 due to transfer of salaries of three watchmen to "Salaries, Office of the Secretary"; Increase of \$100 by transfer from "Salaries, Office of the Secretary", as pro rata of supply handling charges for 1934; Net decrease pro rated to the various projects as indicated. \$23,748 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The activities under this appropriation item have for their object the development of methods for the most economical production and use of nitrogen, phosphate, and potash fertilizers. The research is directed toward the development of new manufacturing processes and the improvement of those already in use; production of new and improved fertilizer compounds; study of the practicability of using new sources of raw products or of utilizing by-products from other industries; and determination of the chemical and physical properties of the final products, particularly with regard to their suitability for use in various fertilizer mixtures. An intensive study of the various phases of fertilizer production is especially urgent in order that this country may no longer be dependent on foreign sources; it is also necessary for the industry to keep abreast of that abroad and be able to meet increasing foreign competition.

(h) SOIL CHEMICAL AND PHYSICAL INVESTIGATIONS

Appropriation, 1932..... \$61,420

Appropriation, 1933..... 61,190
Budget Estimate, 1934..... 56,545
Decrease..... 4,645

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Soil Chemistry.....	\$42,180	\$42,630	\$42,630	- - -
Soil Physics.....	18,360	18,560	18,560	- - -
Legislative furlough deduction	- - -	- - -	-4,645	\$-4,645
Total.....	60,540	61,190	56,545	- 4,645 (1)

(1) \$4,645 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The investigations under this appropriation include chemical and physical research on the fundamental processes of soil formation and plant food liberation, on the chemical and physical characteristics of major soil series, and on the organic and mineral soil colloids. These researches provide fundamental information on the potential productiveness of soils and have an important bearing on soil diagnosis and treatment and on the establishment of a definite standard of soil value measured in terms of potential productivity. The work also includes all laboratory analyses in connection with the soil survey and soil erosion studies, and in addition a large number of routine examinations of soils and soil materials are made for other Government agencies, the results of which are used by those agencies in the conduct of their work.

(i) SOIL SURVEY

Appropriation, 1932..... \$321,705

Appropriation, 1933..... 307,705
Budget Estimate, 1934..... 288,792
Decrease..... 18,913

[illegible]

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

1. *What is the purpose of this study?*
 2. *What are the research objectives?*
 3. *What is the research methodology?*
 4. *What are the results of the study?*
 5. *What are the conclusions of the study?*
 6. *What are the limitations of the study?*
 7. *What are the implications of the study?*
 8. *What are the future research directions?*
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 10. *What are the key findings of the study?*
 11. *What are the main results of the study?*
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 100. *What are the nonavigintigintigintigintigintigintigintenary outcomes of the study?*

1. *Pharmaceutical industry* – The pharmaceutical industry is the largest of the three industries, with sales of \$10.5 billion in 1997. It is the only industry that has a significant presence in all three markets.

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1. The first group of people who are interested in the study of the history of the world are the historians. They are the people who study the past and write about it. They are the people who tell us what happened and why it happened. They are the people who help us to understand the world and ourselves.

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Detailed and Reconnaissance				
Surveys	\$235,955	\$235,425	\$235,512	\$ +87 (1)
Inspection and Correlation.....	33,602	34,480	34,480	- - -
Map Drafting	36,520	37,800	37,800	- - -
Legislative furlough deduction.	- - -	- - -	- 19,000	- 19,000 (2)
Total	306,077	307,705	288,792	- 18,913

Decrease of \$18,913 is explained as follows:

(1) Apparent increase of \$87 by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$19,000 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The object of the Soil Survey is to map and classify the soils of the United States and make this information available to those interested in agriculture. The ultimate purpose is to provide a soil map of the continental United States which will furnish a foundation of facts upon which to develop a rational permanent agriculture and form a basis for land classification. The work comprises research of the field characteristics of soils, classification and mapping of the soils surveyed, correlation of soil types, and the preparation of maps and reports embodying the data accumulated in the field. During the past fiscal year soil survey work was carried on in 82 areas scattered over 32 States; 40,569 square miles were covered by detailed surveys and 7,255 square miles by the reconnaissance method. The soil surveys are made in cooperation with the various States.

(j) SOIL MICROBIOLOGY INVESTIGATIONS

Appropriation, 1932..... \$43,820

Appropriation, 1933..... 43,355
Budget Estimate, 1934..... 40,641
Decrease 2,714

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Soil Microbiology.....	\$41,902	\$43,355	\$40,641	-\$2,714 (1)
(1) <u>\$2,714 reduction on account of continuation of legislative furlough.</u>				

WORK UNDER THIS APPROPRIATION

Work under this appropriation includes tests and inspection of soil inoculants to insure that cultures sold to farmers are true to type, viable, and efficient for the purpose claimed. Research is also conducted on root nodule bacteria and their relation to accumulation of soil nitrogen; on the effects of green manures, cover crops, and crop residues on the soil flora; the effect of soil reactions and soil treatments on the microorganisms of the soil; and

microbiological studies of the organisms responsible for the decay of soil organic matter. The object of these investigations is to obtain a better understanding of the nitrogen economy of legumes and the effects of different manuring systems on the micro-population of the soil with a view to effecting savings for the farmers, by indicating to them the means by which the soil population can be maintained at the optimum for the economic production of crop plants.

(k) SOIL FERTILITY INVESTIGATIONS

Appropriation, 1932..... \$220,080

Appropriation, 1933..... 206,980
Budget Estimate, 1934..... 195,556
Decrease 11,424

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Soil Fertility Investiga-				
tions	\$147,375	\$148,005	\$148,005	- - -
Cotton Root-Rot	46,842	49,000	49,000	- - -
South Carolina Station	9,925	9,975	9,975	- - -
Legislative furlough deduction - - -	- - -	- - -	-11,424	11,424 (1)
Total	206,142	206,980	195,556	11,424

(1) \$11,424 reduction on account of continuation of legislative furlough

WORK UNDER THIS APPROPRIATION

The activities under this appropriation include studies in the laboratory, greenhouse, and field on problems of soil fertility in relation to various crops and soils, with the view of reducing the farmer's costs of production. The work involves study of the plant-food requirements of prominent soil types and experiments with different fertilizer materials to determine the ratios best suited to each soil; fertilizer studies with important crops; investigations of new fertilizers; biochemical soil and fertilizer studies; cotton root-rot soil and fertilizer studies; and soil improvement investigations in the sand hill section of the South.

Field laboratories have been established at Houma and Shreveport, La., Orlando, Fla., Albany, Ga., Columbia, S. C., Chadbourn, N.C., Austin, Tex., Scottsbluff, Nebr., and Fargo, N. Dak. The work is carried on in cooperation with State Experiment Stations and leading farmers in those states and in Maine, New York, New Jersey, Pennsylvania, Virginia, South Carolina, Ohio, Michigan, Minnesota, Iowa, South Dakota, Wyoming, Montana, Idaho, Colorado, Utah, and California.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Departmental authorization for 1933 is \$650. The authorization for 1934, \$650, therefore is the same as 1933.

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Note:-Also see Miscellaneous Section for "Work for other Departments", and "Soil Erosion Investigations".

THE HON. THE CHIEF JUSTICE OF THE SUPREME COURT OF CANADA
OTTAWA, ONTARIO
JANUARY 1, 1900
TO THE HON. THE ATTORNEY GENERAL
DEAR SIR:

I have the honor to acknowledge the receipt of your letter of the 29th inst. in relation to the proposed amendment to the Constitution of Canada, and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,
Your obedient servant,
J. H. [Signature]

BUREAU OF ENTOMOLOGYCHANGE IN LANGUAGE

The Act making appropriations for the fiscal year 1933 authorized the construction of one greenhouse. It is not proposed to erect a greenhouse during the fiscal year 1934 and this authorization is omitted. The following language is excluded from the preamble:

" : Provided further, that one greenhouse may be erected at a cost not to exceed \$10,000".

(a) GENERAL ADMINISTRATIVE EXPENSES

Available, 1932, including adjustments involved in reorganization	\$148,060
<u>Appropriation, 1933</u>	<u>147,460</u>
<u>Budget Estimate, 1934</u>	<u>136,358</u>
Decrease	11,102

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
General Administration	\$140,705	\$147,460	\$136,358	\$11,102 (1)

(1) The decrease of \$11,102 is explained as follows:

Apparent increase of \$98 by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934; \$11,200 reduction on account of continuation of leg. fur.

WORK UNDER THIS APPROPRIATION

This appropriation provides for the general administration of the entire Bureau, including direction of technical work; determination of policies; supervision of all business transactions such as purchase of supplies, employment of personnel, auditing and accounting for expenditures, etc.; approval and editing of publications; distribution of reports and general information; and the maintaining of a comprehensive library of the extensive literature on entomology.

(b) FRUIT AND SHADE-TREE INSECTS

Available, 1932, including adjustments involved
in reorganization \$549,190

Appropriation, 1933:

1. Agricultural Act \$400,000
 2. Reappropriation of unexpended
 balance of 1931 appropriation.. 55,000
Total Appropriation, 1933 455,000
Budget Estimate, 1934 421,745
Decrease 33,255

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Apple Insects	\$51,667	\$43,200	\$43,200	- - -
Peach Insects	83,235	59,400	59,400	- - -
Grape Insects	4,928	6,000	6,000	- - -
Nut Insects	37,219	37,200	37,200	- - -
Blueberry Maggot	5,929	3,000	- - -	\$3,000 (1)
Subtropical Fruit Insects:				
Black Fly Parasites	6,000	- - -	- - -	- - -
Resistant Scale Insects	22,428	26,040	26,040	- - -
Parlatoria Date Scale	4,513	4,700	4,700	- - -
Citrus Insects in Gulf Region.	13,192	13,515	13,515	- - -
Citrus Insects in Calif.	7,476	6,645	6,645	- - -
Total	53,609	50,900	50,900	- - -
Fruit Flies:				
In Hawaii	7,475	46,800	46,800	- - -
In Canal Zone	5,659	5,700	5,700	- - -
In Mexico	24,024	27,700	27,700	- - -
Total	37,158	80,200	80,200	- - -
Shade-Tree and Hardy Shrubs:				
Camphor Scale	11,151	11,225	11,225	- - -
Shade-Tree Insects	10,000	10,875	10,875	- - -
Total	21,151	22,100	22,100	- - -
Japanese and Asiatic Beetles ...	166,095	153,000(b)	149,800	3,200 (2)
Legislative furlough deduction..	-	-	27,055	27,055 (3)
Total	460,991	455,000	421,745(a)	33,255

(a) Includes \$55,000 reappropriated from the unexpended balance of the appropriation for investigations and control of the Mediterranean fruit fly, Agricultural Appropriation Act, fiscal year 1931.

(b) Includes \$1,500 transferred to the item "Taxonomy and Interrelations of Insects" for the identification and classification of insects.

The reduction of \$6,200 is explained as follows:

(1) \$3,000 decrease under Blueberry Maggot is possible because of the discontinuance of investigations on this insect. The blueberry maggot, a serious pest of blueberries, has been studied for a number of seasons. These investigations have developed an effective method for the control of this pest. The information as to the methods of control has been made generally available to blueberry growers and others in the regions where this insect occurred. The application of these control measures is now largely a matter of individual application with such assistance as may be rendered by associated interests and State officials.

(2) The reduction of \$3,200 on the project Japanese and Asiatic Beetles is explained as follows:

\$1,500 decrease which is apparent only since this amount was, in 1933, transferred to the item "Taxonomy and Interrelations of Insects". This transfer was necessary to carry on basic work on the identification and classification of insects and was met by a general reduction in operating expenses, including the employment of seasonal assistants.

\$1,775 decrease for reduction in foreign quarters allowances. This reduction is 50 per cent of the general maximum allowance and is made in accordance with the general plan.

\$75 apparent increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(3) \$27,055 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work done under this appropriation item deals with investigations of insects which affect woody horticultural plants including fruits, nuts, shade and ornamental trees and shrubs. These activities involve studies of the habits and development of insects injurious to these crops and investigations to determine effective means of control. Similar investigations on insects injurious to grapes -- under study at Sandusky, Ohio -- and those small fruits which have their seeds internally such as blueberries and cranberries also come under this item. It provides for investigations on the Japanese and Asiatic beetles, with headquarters at Moorestown, N. J., and for investigations on fruit flies, carried on in Hawaii, Mexico, and the Canal Zone.

Many of these problems are investigated in cooperation with State agencies and all are coordinated with such agencies to avoid duplication of effort.

Among the insects attacking apple and other deciduous fruits under investigation at field laboratories at Wenatchee and Yakima, Wash., Bentonville, Ark., Vincennes, Ind., and Takoma Park, Md., are the codling moth, tarnished plant bug, wooly apple aphid.

Important insect pests of peaches such as the Oriental fruit moth, the plum curculio, certain twig and root borers are among the problems under investigation at Laboratories located at Cornelia and Fort Valley, Ga., Moorestown, N. J., and Harriman, Tenn.

Investigations on insects injurious to pecans are carried on at Albany and Experiment Ga., Shreveport, La., and Brownwood, Texas.

The investigations on insect pests of oranges and other citrus fruits are headquartered at Orlando, Fla., and Whittier, Calif.

(c) TRUCK AND GARDEN CROP INSECTS

Available, 1932, including adjustments involved
in reorganization \$451,690

Appropriation, 1933 421,490
Budget Estimate, 1934 395,100
Decrease 26,390

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Truck Crop Insects:				
European Earwig	\$9,223	\$10,910	\$10,910	- - -
Vegetable Weevil	8,176	8,940	8,940	- - -
Turnip Aphid	8,232	9,026	9,026	- - -
Pepper Weevil	5,000	4,500	4,500	- - -
Celery Insects	14,336	15,750	15,750	- - -
Sweet-Potato Weevil	13,440	14,250	14,250	- - -
Sweet-Potato Wireworm	5,000	5,000	5,000	- - -
Wireworms in Pacific Northwest.	39,905	40,745	40,745	- - -
Wireworms in California	10,251	11,530	11,530	- - -
Wireworms in South Carolina ...	7,500	7,250	7,250	- - -
Bean Insects	42,234	46,525	46,525	- - -
Lima Bean Pod Borer	7,000	7,250	7,250	- - -
Pea Insects	7,801	8,460	8,460	- - -
Lettuce Insects	- - -	5,000	5,000	- - -
Other Truck Crop Insects	26,422	30,727(a)	25,337	\$5,390(1)
Total	204,520	225,863(a)	220,473	5,390
Berry Insects	19,034	20,160	20,160	- - -
Sugar-Beet Insects	100,306	102,235	102,235	- - -
Tobacco Insects	22,880	21,927	21,927	- - -
Insects Affecting Greenhouses:				
Mushroom Insects	5,227	6,000	6,000	- - -
Greenhouse Insects	21,633	22,765	22,765	- - -
Bulb Insects	22,430	22,540	22,540	- - -
Total	49,290	51,305	51,305	- - -
Legislative furlough deduction...	- - -	- - -	21,000	-21,000 (2)
Grand Total	396,030	421,490	395,100	26,390

- (a) Includes \$3,000 transferred to the item "Taxonomy and Interrelations of Insects" for the identification and classification of insects.

(1) The reduction of \$5,390 is explained as follows:

\$5,000 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects and was met by a reduction in operating expenses.

\$2,500 decrease to be effected by general reduction on operating expenses, including the employment of seasonal assistants who would aid in investigations on such pests as the cabbage worm, various aphids, etc.

\$110 increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

- (2) \$21,000 reduction on account of continuation of leg. fur.

WORK UNDER THIS APPROPRIATION

The work done under this subappropriation has to deal with the study of insects and the development of means of control of the forms injurious to truck and garden crops including vegetables, flowers, bulbous plants, potted ornamentals, plants grown under glass and such related crops as strawberries, raspberries, blackberries, sugar beets, and tobacco. It also provides for investigations on the European earwig, at the Puyallup, Wash., laboratory; pests of mushrooms, headquartered at Takoma Park, Md.; and soil insects such as wireworms which are studied at Walla Walla, Wash., Parma, Idaho, Alhambra, Calif., and Fairfax, S. C.

The more important insect pests of truck and garden crops are being studied at laboratories maintained in California, Florida, Louisiana, Mississippi, North Carolina and Washington. These investigations are coordinated with those carried on by the State agencies and where practical in cooperation with them.

The sweet-potato weevil control is the main problem of the laboratories at Grand Bay, Ala., Biloxi, and Bay St. Louis, Miss. Part of this work is carried on in cooperation with the States.

The principal enemy of the sugar-beet crop is the sugar-beet leafhopper, an insect which transmits the curly-top disease. This important insect is being studied, in cooperation with certain States, at laboratories at Twin Falls, Idaho, State College, N. M.; Hermiston, Ore.; Salt Lake City, Utah; and Grand Junction, Colo.

The headquarters for investigations on insect pests of tobacco as it is grown in the field are located at Quincy, Fla. and Clarksville, Tenn.

The Mexican bean beetle and other insect pests of beans are being studied at Columbus, Ohio; Norfolk, Va.; Alhambra, Calif.; and Estancia, N. M.

(d) FOREST INSECTS

Available, 1932, including adjustments
involved in reorganization.....\$224,290

Appropriation, 1933..... 209,790
Budget Estimate, 1934..... 193,700
Decrease..... 16,090

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Forest Insects:				
Cooperative Control.....	\$54,664	\$60,000	\$60,000	- - -
Tree-Killing Insects.....	47,365	47,710	47,710	- - -
Forest Products.....	7,500	7,500	7,500	- - -
Total	109,529	115,210	115,210	- - -
Gipsy and Other Moths.....	90,192	94,580 (a)	89,690	\$4,890 (1)
Legislative furlough deduction - - -	- - -	- - -	-11,200	11,200 (2)
Total	199,721	209,790(a)	193,700	16,090

(a) Includes \$500 transferred to the item "Taxonomy and Interrelations of Insects" for identification and classification of insects.

(1) The reduction of \$4,890 is explained as follows:

\$500 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects and was met by a reduction in operating expenses.

\$150 decrease for reduction in foreign quarters allowances as 50 per cent of the general maximum allowance, made in accordance with the general plan.

\$4,290 decrease to be effected by a general reduction in operating expenses in the investigations on parasites of the gipsy and other moths.

\$50 apparent increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$11,200 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work carried on under this appropriation item concerns research on insects injurious to forest trees and crude forest products, the determination of methods of control of such insects, and campaigns against serious outbreaks of such pests over large forest areas, in cooperation with Federal and State officials and with private owners. This work includes many activities dealing with the investigation and control of insects attacking forest trees and crude forest products and field headquarters are maintained at Berkeley, Calif.; Couer d'Alene, Idaho; and Portland, Ore.; Columbus, Ohio; Amherst, Mass., and Asheville, N. C.

Cooperation in bark beetle control with federal agencies administering timber land, such as the Forest Service, National Park Service, and private timberland owners, constitutes one of the most important activities under this appropriation. In such work funds from this item are used for the surveys to determine the heavily invaded areas and for the direction of the technical features of the control work.

This appropriation also provides for the investigation of important introduced insects which attack forest trees such as the gipsy moth, brown-tail moth, satin moth, pine shoot moth, etc. These investigations are headquartered at Melrose Highlands, Mass. and include studies to develop control methods, both artificial and natural. The latter involves the importation of parasitic and predatory enemies and for this purpose temporary field headquarters are located in Hungary.

(e) CEREAL AND FORAGE INSECTS

Available, 1932, including adjustments involved in reorganization	\$567,220
Appropriation, 1933	529,820
Budget Estimate, 1934	488,040
Decrease	41,780

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Cereal and Forage Insects:				
Hessian Fly.....	\$30,622	\$33,410	\$33,410	- - -
Chinch Bug.....	16,111	17,570	17,570	- - -
Grasshoppers.....	31,733	29,180	29,180	- - -
Mormon Cricket.....	4,995	- - -	- - -	- - -
Cereal Insects.....	36,644	40,020	40,020	- - -
Alfalfa Weevil.....	29,259	37,125	37,125	- - -
Insects and Diseases.....	41,301	13,000	13,000	- - -
Forage Insects.....	40,298	69,805	69,915	+ \$ 110 (1)
Total.....	230,963	240,110	240,220	+ 110
European Corn Borer.....	246,325	249,400(a)	236,400	-13,000 (2)
Sugar Cane and Rice Insects ...	39,304	40,310	39,920	- 390 (3)
Legislative furlough deduction			-28,500	-28,500 (4)
Total.....	516,592	529,820(a)	488,040	-41,780

(a) Includes \$3,000 transferred to the item "Taxonomy and Interrelations of Insects" for identification and classification of insects.

The reduction of \$41,780 is explained as follows:

(1) \$110 apparent increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$13,000 decrease for European Corn Borer project includes the following two items:

\$3,000 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects and was met by a reduction in operating expenses.

\$10,000 decrease to be effected by a general reduction in temporary seasonal assistance and other operating expenses in the investigations on parasites of the corn borer and in investigations to determine effect of borer population on the corn plant.

(3) \$390 decrease for reduction in foreign quarters allowances as 50 per cent of the general maximum allowance, made in accordance with the general plan.

(4) \$28,500 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work under this appropriation item has to deal with investigations leading to the development of effective and economical means of controlling insects affecting cereal and forage crops including sugar cane and rice -- the latter two under study at Crowley, Houma, and New Orleans, La. The activities include investigations of the habits, development, and distribution of the numerous kinds of insects which attack these crops and experimentation leading to their control by appropriate crop rotation, cultural practices, farm machinery, and other similar methods. It provides for research on the European corn borer -- at several laboratories, the principal ones being located at Toledo and Sandusky, Ohio, Arlington, Mass., and Monroe, Mich. -- and for the collection and introduction from foreign countries of parasites to aid in the control of this and of other cereal and forage insect pests.

The insects attacking cereal and forage plants are, generally speaking, not confined to one host. Moreover, several of the most important economic plants are used interchangeably either for cereal or forage purposes and thus various cereal or forage plants may be growing in the same field or general area at the same time. It is, therefore, impracticable to confine the investigations at any single field laboratory to a single insect or problem. The field laboratories maintained under this appropriation serve the agriculture of the regions in which they are located with respect to all serious pests of cereal and forage crops. Special emphasis is, however, given to major projects dealing with the primary cereal or forage insect pest of the region. The more important field laboratories for work on cereal and forage insects are located at Tempe, Ariz.; Sacramento, Calif.; Savannah, Ga.; West Lafayette, Ind.; Wichita, Kans.; Webster Groves, Mo.; Bozeman, Mont.; Carlisle, Pa.; San Antonio, Tex.; Salt Lake City, Utah; and Charlottesville and Rosslyn, Va.

Available, 1932, including adjustments involved
in reorganization \$298,820

Appropriation, 1933 200,000
Budget Estimate, 1934 189,320
Decrease 10,680

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Cotton Boll Weevil	\$107,448	\$90,000	\$90,000	- - -
Miscellaneous Cotton Insects	45,653	55,000	55,000	- - -
Thurberia Weevil	17,469	15,000	15,000	- - -
Pink Bollworm	47,837	40,000	40,000	- - -
Legislative furlough deduction	- - -	- - -	-10,680	\$10,680 (1)
Total	218,407	200,000	189,320	10,680

(1) \$10,680 reduction on account of continuation of legislative furlough.

Note: The estimate of funds required for the fiscal year 1934 is the same as the amount appropriated for the fiscal year 1933. The estimate for 1934 was reduced by \$30 in foreign quarters allowances as 50 per cent of the general maximum allowance, made in accordance with the general plan, and increased by the same amount by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

WORK UNDER THIS APPROPRIATION

The funds provided by this appropriation are used to conduct investigations on insects injurious to cotton and for the development of means of control of these pests either by direct or indirect means. They also provide for cooperation with certain States in the distribution to farmers and others of timely information on the control of major cotton insect pests. The work of this unit is directed from headquarters in Washington.

The investigations are carried on at field laboratories maintained in a number of localities throughout the Cotton Belt. The work at some of these stations is carried on in cooperation with State agencies. The principal laboratory for work on the boll weevil and miscellaneous cotton insects is located at Tallulah, La. One of the important problems now receiving attention at this laboratory is the development of a method for control of the several insects known as flea hoppers. These pests have been unusually abundant this year, causing particular damage in parts of southeastern Texas.

Investigations on the boll worm and certain other cotton pests are carried on at a station maintained in cooperation with the State Department of Agriculture at Bryan, Texas. The main laboratory for investigations on the pink bollworm is at Presidio, Tex., where the work is conducted in cooperation with the State Department of Agriculture. Certain features of the investigation on this important pest which presents a decided menace to the main Cotton Belt are headquartered at Tlahualilo, Mexico, and carried on in cooperation with the Mexican Department of Agriculture.

(g) INSECTS AFFECTING MAN AND ANIMALS

Available, 1932, including adjustments involved
in reorganization \$156,900

Appropriation, 1933 145,000
Budget Estimate, 1934 134,850
Decrease 10,150

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Insects Affecting Man:				
Eye Gnat	\$9,400	\$10,000	\$10,000	- - -
Mosquito Investigations ...	22,074	22,920	22,920	- - -
Osteomyelitis	9,403	10,000	10,000	- - -
Sand Fly	15,956	16,100	16,100	- - -
Total	56,833	59,020	59,020	- - -
Insects Affecting Cattle	49,295	46,020	43,520	- \$2,500 (1)
Poultry and Birds	915	3,600	3,600	- - -
Sheep and Goats	32,224	32,560	32,610	+ 50 (2)
Miscellaneous Animals	4,997	3,800	3,800	- - -
Legislative furlough deduction - - -	- - -	- - -	- 7,700	- 7,700 (3)
Total.....	144,264	145,000	134,850	- 10,150

The reduction of 10,150 is explained as follows:

(1) \$2,500 decrease to be effected by general reduction in expenditures on insects affecting cattle. These reductions will involve the employment of temporary seasonal assistants and purchase of supplies and equipment used in (a) investigations on the relation of agricultural practices to the control of the cattle grub; (b) investigations on the control of flies in dairies; and (c) investigations on the control of ticks.

(2) \$50 apparent increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(3) \$7,700 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This appropriation provides for investigations on insect pests of farm and range animals, poultry, pets, and those annoying man by direct attack or by carrying human diseases. The work involves a study of the life history and habits of the insects and development of means of control or eradication.

The principal investigations now under way on insects affecting man are: (1) Those on the eye gnat, headquartered at Coachella, Calif., an insect common in many irrigated valleys and in various southern communities, which transmits certain dangerous diseases of the eye; (2) those on certain mosquitoes, particularly the species that breed in flood waters in the Pacific Northwest -- headquartered at Portland, Oreg. -- and the serious pest of the eastern coast, known as *Mansonina* -- headquartered at Orlando, Fla. -- which

in the wiggler stage takes its air from tissues of aquatic plants and thus remains far beneath the surface of the water; (3) those on the various species of sand flies, pestiferous throughout the Atlantic Coastal Plain, carried on at the laboratory at Savannah, Ga.; (4) those on fly maggots which may be used in treating various bone diseases such as osteomyelitis, conducted at Washington, D. C. and in cooperating hospitals in Baltimore, Md.

Investigations on the control of cattle grubs are conducted, in cooperation with the Bureau of Animal Industry, at Ames, Iowa where methods of controlling flies in dairies are also studied. The habits and parasites of ticks are investigated at the Brownsville, Tex. laboratory. Investigations on certain insects attacking cattle and important insect pests of sheep and goats are conducted at Dallas, Menard, and Uvalde, Tex. Studies on insects attacking poultry are under way at Takoma Park, Md., and a survey to secure preliminary information on the buffalo gnat is being conducted in the Lower Mississippi Valley.

(h) HOUSEHOLD AND STORED PRODUCT INSECTS

Available, 1932, including adjustments involved in reorganization \$154,920

<u>Appropriation, 1933</u>	147,320
<u>Budget Estimate, 1934</u>	133,600
Decrease	13,720

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Stored Product Insects:				
Bean Weevil	\$6,913	\$10,072(a)	\$8,572	\$1,500(1)
Pea Weevil	12,968	15,000	15,000	- - -
Stored Grain	35,647	33,573	31,753	1,820(2)
Dried Fruits	12,887	14,633	14,633	- - -
Stored Tobacco	34,892	34,015	30,015	4,000(3)
Confections	4,460	5,000	5,000	- - -
Wood Products	4,780	4,900	4,900	- - -
Total	112,547	117,193(a)	109,873	7,320
Household Insects	6,408	16,127	16,127	- - -
Argentine Ant	10,446	14,000	14,000	- - -
Legislative furlough deduction	- - -	- - -	-6,400	6,400(4)
Total	129,401	147,320(a)	133,600	13,720

(a) Includes \$1,500 transferred to the item "Taxonomy and Interrelations of Insects" for identification and classification of insects.

The reduction of \$13,720 is explained as follows:

(1) \$1,500 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects and met by a reduction of operating expenses.

(2) \$1,820 decrease to be effected by general reduction in expenditures on equipment used in investigations on insects affecting stored grain.

(3) \$4,000 decrease to be effected by general reduction in expenditures of supplies and materials used in investigations of insects affecting tobacco in storage.

(4) \$6,400 reduction on account of continuation of legislative furlough.
WORK UNDER THIS APPROPRIATION

This appropriation provides for investigations on the habits and the determination of control measures for the many kinds of insects attacking agricultural and manufactured products in storage and also for the species which are household pests. These activities involve studies on insects attacking grain, grain products, dried fruits, and other foods in storage, stored and manufactured tobacco and finished wood products; also for investigations on insect pests infesting manufacturing plants and warehouses, and those injuring hides, clothing, carpets, tapestries, upholstering, etc.

Important basic investigations on fumigants for various pests, particularly those attacking stored grains are conducted in Washington in cooperation with the Bureau of Chemistry and Soils and field headquarters for work on stored grain insect pests are maintained at Kansas City, Mo., and Thomasville, Ga.

The insect pests of the seed pea crop are being studied at field laboratories at Corvallis, Oreg., and Moscow, Idaho; and the control of the bean weevil is investigated at a laboratory located at Modesto, Calif. Investigations on insects attacking dried fruits are carried on from headquarters at Fresno, Calif. The habits and methods of control of a newly discovered insect pest of stored tobacco are the main problems investigated at a laboratory maintained at Richmond, Va. Methods of controlling and preventing insect damage to fabrics, furs, and furniture are studied at Sligo, Md.

A survey to determine the distribution and relative abundance of the Argentine Ant is directed from Starksville, Mississippi.

(i) TAXONOMY AND INTERRELATIONS OF INSECTS

<u>Available, 1932, including adjustments involved</u>	
in reorganization	\$238,730
<u>Appropriation, 1933</u>	200,000
<u>Budget Estimate, 1934</u>	194,030
Decrease	5,970

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Taxonomic Investigations:				
Beetles	\$25,494	\$23,200	\$26,450	\$3,250
Moths	24,090	25,000	25,000	- - -
Flies	10,491	10,600	10,600	- - -
Hymenoptera	27,754	22,500	27,000	4,500
Grasshoppers	5,420	4,500	4,500	- - -
True Bugs	3,992	3,800	3,800	- - -
Scale Insects	11,472	10,700	13,000	2,300
Leafhoppers	4,590	4,000	4,000	- - -
Aphids	3,400	3,400	3,400	- - -
Ectoparasites and Mites	5,245	5,300	5,300	- - -
Total	121,948	113,000(a)	123,050	10,050 (1)
Insect Pest Survey	13,217	12,000	12,000	- - -
Public Relations	18,079	18,400	18,450	50 (2)
Bioclimatic Studies of Insects.	4,226	2,600	2,600	- - -
Morphological Investigations ..	9,671	9,500	9,500	- - -
Exchange of Useful Insects	7,923	7,500	7,500	- - -
Physiology and Toxicology	34,610	37,000	37,000	- - -
Disinfection of Plant Products.	1,505	- - -	- - -	- - -
Legislative furlough deduction.	- - -	- - -	-16,070	-16,070 (3)
Grand total	211,179	200,000(a)	194,030	- 5,970

(a) Excludes \$10,000 transferred from other appropriation items for identification and classification of beetles, wasps, and scale insects.

The decrease of \$ 5,970 is explained as follows:

(1) The increase of \$10,050 for Taxonomic Investigations is explained as follows:

\$50 increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

\$10,000 apparent increase by transfer, with corresponding reductions, from the appropriation items of the Bureau of Entomology listed below for basic work of importance to all entomological problems on the identification and classification of insects:

Fruit and Shade-Tree Insects	\$1,500
Truck and Garden Crop Insects	3,000
Forest Insects	500
Cereal and Forage Insects	3,000
Household and Stored Product Insects ...	1,500
Bee Culture	500
Total	\$10,000

The work on the identification and classification of insects is fundamental and has a direct bearing on practically all activities of the Bureau. Every unit of the bureau has definite need for the names of insects. To avoid setting up an identification unit in every section, to permit more effective

and economical direction, this basic work has been grouped together. To continue the work of naming beetles and scale insects, many of which are important insect pests and the beneficial parasitic wasps is essential to the effective conduct of investigations on most of the major insect problems. There are thousands of species of insects, many of which resemble each other so closely that only specialists can accurately distinguish those economically injurious from the non-important or beneficial forms. In order to continue this essential work during 1933 transfers as listed above have been made by administrative action.

(2) \$50 apparent increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(3) \$13,070 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The funds supplied under this appropriation item provide for investigations on a number of basic subjects necessary to the conduct of much of the Bureau's economic work. They include (1) the identification, classification, and description of insects in both adult and immature stages, -- involving the naming of large numbers of specimens for all units of the Bureau, other offices of the Federal Government, State experiment Stations, institutions, etc.; (2) the collecting, recording, analyzing, and maintaining records on insect abundance and damage, the furnishing such information as well as a statement of current insect conditions to entomologists throughout the country; (3) the preparation -- in cooperation with the Office of Cooperative Extension Work -- of educational material on entomology, planning and supervising the erection of entomological exhibits and furnishing to State officials the latest information on methods of control of insect pests; (4) investigations of the broader phases of the relation between insects and the environmental conditions influencing their development and abundance; (5) fundamental investigations on the anatomy and structure of insects; (6) cooperative coordination of work involved in the distribution of insects beneficial in the control of injurious species; (7) fundamental investigations on the physiology and toxicology of insects to secure basic information as to various chemicals or other materials used as insecticides, attractants, or baits for the purpose of killing injurious insects; (8) conducting tests to ascertain the effectiveness of various materials developed by the Bureau of Chemistry and Soils for insecticides to determine their value as stomach poisons, contact poisons, or fumigants.

(j) BEE CULTURE AND APIARY MANAGEMENT

Available, 1932, including adjustments involved	
in reorganization	\$73,920
<u>Appropriation, 1933</u>	70,820
<u>Budget Estimate</u>	\$6,730
Decrease	4,090

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Biological Studies:				
Diseases of Bees	\$8,012	\$8,300	\$8,300	- - -
Physiology of Bees	15,608	16,400	16,400	- - -
Total	23,620	24,700	24,700	- - -
Technological Studies	9,006	10,940	10,950	\$+10 (1)
Beekeeping in Intermountain Region	9,947	10,240	10,140	-100 (2)
Beekeeping in Southern States ...	10,255	10,240	10,040	-200 (3)
Beekeeping in Pacific States	14,558	14,700	14,500	-200 (4)
Legislative furlough deduction	- - -	- - -	-3,600	-3,600 (5)
Grand Total	67,386	70,820(a)	66,730	-4,090

(a) Includes \$500 transferred to the item "Taxonomy and Interrelations of Insects" for identification and classification of Insects.

4,090

The reduction of ~~\$490~~ is explained as follows:

(1) \$10 apparent increase by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$100 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects. This decrease was met by a reduction in operating expenses.

(3) \$200 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects. This decrease was met by a reduction in operating expenses.

(4) \$200 apparent decrease as this amount was transferred to the item "Taxonomy and Interrelations of Insects" in 1933 to carry on basic work on the identification and classification of insects. This decrease was met by a reduction in operating expenses.

(5) \$3,600 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This item provides for investigations on the habits and management of bees to make the production of honey and wax more profitable and to facilitate the pollination of fruit and forage crops by the use of honey bees.

The work conducted under this appropriation is directed from headquarters maintained at Somerset, Md. Some of the important biological studies carried on at this field laboratory are: (1) those to determine the responses of bees to temperature, humidity, artificial conditions as hives, ventilation, protection, etc. -- knowledge of these reactions is important in determining the most effective method of using bees; (2) those concerned with the artificial mating of queen bees; (3) those on the diseases of bees, including a new disease of the brood recently discovered in limited parts of southeastern United States; (4) those on various types of equipment

and methods of handling which can be most effectively and economically used in producing honey. The preparation and dissemination of information pertaining to bee culture and apiary management is also largely centered at this laboratory.

Special problems affecting beekeeping in the Intermountain region are under investigation at the laboratory at Laramie, Wyoming. One of the studies now under way is concerned with the flight range of the bee to determine the best location for apiaries with regard to the proximity to the source of nectar and the effects such locations have on honey production and pollination of important agricultural plants.

The beekeeping problems of the southern States are investigated at a laboratory located at Baton Rouge, Louisiana. Among the problems being considered at this laboratory are those concerned with queen breeding and bee package industry. Special attention is also being devoted to the relative merits of the strains of bees now being bred. The wax moth is a serious pest in the south and methods for control under southern conditions are also being studied.

The beekeeping problems of the Pacific Coast are being studied at the laboratory located at Davis, Calif. These investigations are carried on in cooperation with the responsible agencies in the States concerned and other interested parties. Some of the problems now under way include (1) an economic study of problems involving the marketing of honey and apiary management; (2) studies to determine conditions as to nectar flow at higher altitudes and the possibilities of carrying on successfully commercial beekeeping in these regions; and (3) investigations to develop a method to obviate the poisoning of bees in areas where buckeye grows -- this may involve the development of a strain of bees more or less resistant to this type of poisoning.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Departmental authorization for 1933 is \$22,075. The authorization for 1934, \$21,075, therefore constitutes a reduction of \$1,000.

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BUREAU OF BIOLOGICAL SURVEY(a) ADMINISTRATIVE EXPENSES

Appropriation, 1932..... \$ 83,280

<u>Appropriation, 1933.....</u>	82,935
<u>Budget Estimate, 1934.....</u>	<u>76,865</u>
<u>Decrease.....</u>	6,070

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Administrative Expenses....	\$82,718	\$82,935	\$76,865	\$6,070(1)

(1) The decrease of \$6,070 is explained as follows:

a. Apparent increase of \$200 by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

b. \$6,270 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work under this appropriation relates chiefly to general administration under the Chief and Associate Chief of the Bureau; business administration including the handling of personnel matters, budget, and other matters pertaining to finances, bookkeeping, auditing of accounts, property, mail and files, and securing of quarters, etc.; and informational and editorial work.

(b) MAINTENANCE OF MAMMAL AND BIRD RESERVATIONS

Appropriation, 1932..... \$101,830

<u>Appropriation, 1933.....</u>	82,313
<u>Budget Estimate, 1934.....</u>	<u>78,601</u>
<u>Decrease.....</u>	3,712

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Bird Refuge.....	\$ 20,130	\$ 24,760	\$ 24,760	- - -
National Bison Range (Mont.)...	15,920	12,200	12,200	- - -
Wind Cave Game Preserve (S.D.)..	12,150	9,060	9,060	- - -
Elk Refuge, (Wyo.).....	18,200	22,393	22,393	- - -
Sullys Hill Game Preserve(N.D.)	6,850	6,500	6,500	- - -
Niobrara Reservation (Nebr.)...	19,631	7,100	7,100	- - -
Restocking Reservations.....	138	300	300	- - -
Legislative furlough deduction.	- - -	- - -	- 3,712	\$3,712 (1)
Total	93,019	82,313	78,601	3,712

(1) \$3,712 reduction on account of continuation of legislative furlough.

THE HISTORY OF THE

REIGN OF KING CHARLES THE FIRST

BY SAMUEL JOHNSON

IN TWO VOLUMES

LONDON

Printed by A. MILLAR

At the Sign of the Sun in Pall Mall

1719

By Authority

Printed by A. MILLAR

At the Sign of the Sun in Pall Mall

1719

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At the Sign of the Sun in Pall Mall

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1719

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WORK UNDER THIS APPROPRIATION

There are 83 wild life refuges administered under this appropriation. This number includes five big-game preserves on four of which herds of buffalo, elk, and other big-game animals are maintained under fence. Hay is produced on the Elk Refuge near Jackson, Wyo., for the feeding of the elk herds which winter in that vicinity. The work carried on under this appropriation consists of general administration of the refuges, their patrolling, posting and surveying; the construction of improvements thereon such as buildings, fences, reservoirs and watering places for animals, roads and trails; the repair of such improvements; the raising of hay and feeding of big-game animals; removal of surplus animals; and restocking of the areas through the transfer of big-game animals from other points. These reservations have been established by Acts of Congress and Executive Orders to provide nesting and resting places for birds, and for refuges for big-game animals such as buffalo, elk, etc., in order to perpetuate the species and prevent their extinction.

(c) FOOD HABITS OF BIRDS AND ANIMALS

Appropriation, 1932..... \$107,660

Appropriation, 1933..... 104,810

Budget Estimate, 1934..... 93,677

Decrease..... 11,133

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Control Methods.....	\$ 33,626	\$ 33,840	\$32,340	\$1,500 (1)
Investigation of the Relation of Birds and Animals to Agriculture.....	67,921	70,970	67,660	3,310 (2)
Legislative furlough deduction	- - -	- - -	-6,323	6,323 (3)
Total.....	101,547	104,810	93,677	11,133

The reduction of \$11,133 is explained as follows:

(1) \$1,500 decrease under the project "Control Methods" will be met by reducing the field investigations which are conducted under this project relating to poisons and fumigants.

(2) \$3,310 decrease under the project "Investigation of the Relation of Birds and Animals to Agriculture" will be met by curtailing field work performed in connection with these investigations.

(3) \$6,323 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Investigations under this appropriation relate to (a) the agricultural significance of native and introduced birds and to a lesser degree of other land vertebrates; (b) study of food habits of birds and animals; (c) improvement of methods and dissemination of knowledge thereof in the protection and increase of useful species and the control of injurious ones; (d) study of the food resources of birds together with possibilities of improvement; (e) study of methods of propagation of game birds, the care of caged and ornamental birds and the dissemination of information on these subjects; and (f) investigations to determine effective methods for the control of injurious rodents and predatory animals and to determine the fitness of various poisons and fumigants for use in their control.

(d) CONTROL OF PREDATORY ANIMALS AND INJURIOUS RODENTS

Appropriation, 1932..... \$590,480

Appropriation, 1933..... 573,780

Budget Estimate, 1934..... 540,454

Decrease..... 33,326

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase</u>
Control of Injurious Rodents..	\$237,826	\$251,330	\$251,380	\$+ 50
Control of Predatory Animals..	326,123	322,450	322,524	+ 74
Legislative fur. deduction ...	- - -	- - -	- 33,450	-33,450
Total	563,949	573,780	540,454	-33,326(1)

(1) The decrease of \$33,326 is explained as follows:

a. Apparent increase of \$124 by transfer from "Salaries, Office of the Secretary" which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

b. \$33,450 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work under this appropriation consists of demonstrations and cooperation in the control of predatory animals and injurious rodents which are a serious menace to livestock, wild game, grazing lands, farm crops, fruit and forest trees, and stored agricultural products, as well as public health. Cooperative operations for the control of predatory animals and injurious rodents are carried on with Federal, State, county and private agencies, approximately \$1,609,000 having been expended by cooperators for this work in the fiscal year 1932. Demonstrations and advice on the best methods of controlling predatory animals and injurious rodents are given to public agencies and individuals.

THE HISTORY OF THE

REIGN OF

1714

The first part of the reign of George I. was distinguished by the peace and tranquillity which reigned in the kingdom. The king, who was a man of a mild and easy temper, was contented with the quiet enjoyment of his throne, and did not meddle with the management of the government. The administration was conducted by the Duke of Devonshire, who was a man of great abilities and a great lover of his country. He was assisted by the Duke of Newcastle, who was a man of great talents and a great lover of his country. The Duke of Devonshire was a man of a mild and easy temper, and was contented with the quiet enjoyment of his throne. The Duke of Newcastle was a man of great talents and a great lover of his country. The Duke of Devonshire was a man of a mild and easy temper, and was contented with the quiet enjoyment of his throne. The Duke of Newcastle was a man of great talents and a great lover of his country.

THE HISTORY OF THE

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(e) PRODUCTION OF FUR-BEARING ANIMALS

Appropriation, 1932.....\$64,360

Appropriation, 1933..... 62,455
Budget Estimate, 1934..... 58,791
Decrease.....- 3,664

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Investigations of Fur Animals..	\$13,525	\$16,045	\$16,045	- - -
Commercial Fur Production.....	1,500	1,500	1,500	- - -
Fur-Animal Experiment Station (N.Y.).....	16,031	14,830	14,830	- - -
Rabbit Experiment Station(Calif)	13,310	12,480	12,480	- - -
Disease Investigations.....	17,970	17,600	17,600	- - -
Legislative furlough deduction.			- 3,664	\$3,664 (1)
Total	62,336	62,455	58,791	3,664

(1) \$3,664 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Work under this appropriation consists of research in connection with the production, conservation and utilization of fur animals including rabbits for meat and fur. Methods employed in the production of fur on fur farms and protected areas are investigated and studies are made of methods of breeding, feeding and handling fur animals in captivity on farms. Research is conducted in the diseases of fur animals and rabbits to ascertain causes and develop methods of treatment and prevention so as to minimize losses to breeders from such causes. A fur-animal experiment station is operated near Saratoga Springs, N.Y., where foxes, minks, martens, fishers, fitch, ferrets and badgers are maintained to determine the most satisfactory methods of raising fur animals in captivity; to ascertain conditions under which the various species can be raised profitably and produce good fur and to develop improved strains by selective breeding. A rabbit experiment station is maintained at Fontana, Calif., in cooperation with the Fontana Farms Company and local rabbit-breeders' organization which furnish land and buildings for the station, representing an investment by cooperators of \$34,000. Investigations are conducted to determine the best methods of producing rabbits for food and fur, insuring sanitary surroundings and preventing diseases and parasites.

(f) BIOLOGICAL INVESTIGATIONS

Appropriation, 1932..... \$128,315

Appropriation, 1933..... 102,500
Budget Estimate, 1934..... 93,287
Decrease..... 9,213

THE UNIVERSITY OF CHICAGO

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PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Investigations of Wild Animal Life.....	\$ 57,341	\$ 50,000	\$ 50,000	- - -
Research in Forest Wild Life.	20,653	20,000	20,000	- - -
Reindeer Investigations.....	21,850	20,300	20,000	\$ 300 (1)
Muskox Investigations.....	12,829	12,200	10,000	2,200 (2)
Legislative furlough deduction	112,673	102,500	6,713	5,713 (3)
Total.....	112,673	102,500	93,287	9,213

The reduction of \$9,213 is explained as follows:

(1) \$300 decrease to be effected by general reduction in expenditures in Reindeer Investigations.

(2) \$2,200 decrease under the project "Muskox Investigations" will be met by curtailment of this work.

(3) \$6,713 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Field and laboratory investigations are made of the distribution, migration, classification, natural history, and ecology of wild animals and birds, and the distribution of zone-indicating plants, and of the natural life zones of the North American Continent. This research work provides the sound basis of scientific facts required for use in the regulatory, economic, educational, and other work of the Bureau. It includes special research on the relationship of wild life to forestry, including investigations of game and fur-bearing animals as productive assets. In Alaska investigations of reindeer, caribou, and muskoxen are conducted for study and improvement of grazing resources, improvement of feeding, handling and management of these animals and in their protection from diseases and parasites so that their value may be increased as economic resources of the Territory.

(g) PROTECTION OF MIGRATORY BIRDS

Appropriation, 1932..... \$220,120

Appropriation, 1933..... 214,240

Budget Estimate, 1934..... 198,190

Decrease..... 16,050

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Migratory Bird Treaty Act...	\$158,064	\$160,120	\$156,280	\$3,840 (1)
Investigations of Migratory Birds.....	34,723	34,900	34,500	400 (2)
Lacey Act.....	18,007	19,220	19,220	- - -
Legislative furlough deduction	- - -	- - -	-11,810	11,810 (3)
Total.....	210,794	214,240	198,190	16,050

The reduction of \$16,050 is explained as follows:

(1) \$3,840 decrease under the project "Migratory Bird Treaty Act" will be met by decreasing the number of deputies employed in various sections of the United States in the enforcement of the Migratory Bird Treaty Act.

(2) \$400 decrease to be effected by general reduction in expenditures for investigations of migratory birds.

(3) \$11,810 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Work under this appropriation consists of the enforcement of the Migratory Bird Treaty and Lacey Acts and scientific investigations necessary for the protection of migratory birds. Work under the Migratory Bird Treaty Act includes the determination of open or closed seasons for migratory game birds, the maintenance of a game protector force throughout the country and allied duties for the protection of migratory game and non-game species. Work under the Lacey Act includes inspection service at principal ports of entry to keep out of the country species of birds and animals injurious to the interests of agriculture and the horticulture and the examination of records of fur dealers, express companies, etc., to determine whether illegal interstate shipments of wild animals, or parts thereof, have been made and securing evidence from the records for prosecution when necessary. The investigational work consists of investigation of the abundance, migratory movements and conditions which affect birds protected under the Migratory Bird Treaty Act; of banding operations to secure scientific information regarding migration routes and the influence of the more important breeding grounds and concentration areas on the waterfowl supply throughout the country; and other work designed to furnish reliable information as a basis for administrative action and for educational work to enlist public support of the regulations.

(h) ENFORCEMENT OF ALASKA GAME LAW

Appropriation, 1932..... \$110,445

Appropriation, 1933..... 103,566

Budget Estimate, 1934..... 95,158

Decrease..... 8,408

1. The first part of the report is a summary of the work done during the year.
 2. The second part is a detailed account of the work done during the year.
 3. The third part is a summary of the work done during the year.
 4. The fourth part is a detailed account of the work done during the year.
 5. The fifth part is a summary of the work done during the year.
 6. The sixth part is a detailed account of the work done during the year.
 7. The seventh part is a summary of the work done during the year.
 8. The eighth part is a detailed account of the work done during the year.
 9. The ninth part is a summary of the work done during the year.
 10. The tenth part is a detailed account of the work done during the year.

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The fourth part of the report is a detailed account of the work done during the year.

The fifth part of the report is a summary of the work done during the year.

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Enforcement of Alaska Game Law.....	\$105,441	\$103,566	\$95,158	\$8,408 (1)

(1) The reduction of \$8,408 will be met by decreasing the patrolling expenses of the ten wardens enforcing the Alaska Game Law and regulations thereunder, and \$4,842 reduction will be made on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Work under this appropriation consists of the enforcement of the Alaska Game Law and regulations for the conservation and protection of game and land fur-bearing animals in Alaska. This work is administered by the Alaska Game Commission through ten warden districts, with a warden in charge of each district. Fifty percent of the receipts from licenses, fines and forfeitures is covered into the Treasury of the United States as miscellaneous receipts, and the balance is turned over to the Treasury of the Territory for the Territorial School Fund. The total receipts for the fiscal year 1932 were \$44,151. Licenses are sold by members of the Alaska Game Commission, wardens and special licensing officers.

(i) UPPER MISSISSIPPI RIVER WILD LIFE REFUGE

<u>Appropriation, 1932.....</u>	\$197,780
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<u>Appropriation, 1933.....</u>	79,478
<u>Budget Estimate, 1934.....</u>	61,700
<u>Decrease.....</u>	17,778

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Administration	\$45,307	\$45,445	\$45,445	- - -
Acquisition of Land	45,530	34,033(a)	19,555(a)	\$14,478 (1)
Legislative furlough deduction.....	- - -	- - -	- 3,300	3,300 (2)
Total	90,837	79,478	61,700	17,778

(a) Exclusive of any balances carried forward from previous fiscal years.

(1) The reduction of \$14,478 under the project "Acquisition of Land" will be effected by a reduction in personnel amounting to \$8,600, by a decrease in surveying work and other expenses incident to the carrying out of the project.

(2) \$3,300 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The Act of June 7, 1924 (U.S.C. title 16, sec. 721-731) authorized an appropriation of \$1,500,000 for the establishment of a wild life and fish refuge in the overflow area along the Mississippi River between Wabasha, Minn., and Rock Island, Ill., a distance of approximately 300 miles. Including the fiscal year 1933 \$870,033 of this sum has been appropriated. On June 30, 1932, 135,785 acres had been acquired or were being acquired under existing contracts and approximately 7,000 acres will be acquired during the fiscal year 1933. The work incident to acquisition includes examination and valuation of lands, negotiations with tract owners to secure satisfactory price agreements, and examinations of titles and boundary surveys of land being acquired. Lands are placed under administration as rapidly as acquisitions permit the consolidation of satisfactory units for economical administration and the areas are posted against trespass. The refuge is patrolled for the protection of wild life and the prevention of trespass and for the detection and suppression of forest fires together with the supervision of special uses authorized by permits, etc. Wild life resources of the refuges are being developed as fully as possible.

(j) BEAR RIVER MIGRATORY BIRD REFUGE

Appropriation, 1932..... \$19,900

Appropriation, 1933..... 32,100
Budget Estimate, 1934..... 22,114
 Decrease..... 9,986

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Bear River Migratory Bird Refuge--Administration.....	\$19,506	\$32,100	\$22,114	\$9,986 (1)

The above amounts are exclusive of any small balances carried forward from the fiscal year 1931 for projects for development and acquisition of land.

(1) The decrease of \$9,986 is explained as follows:

a. A reduction of \$9,000 is due to the dropping of a non-recurring item of this amount provided for 1933 for the purchase of a drag-line outfit for use at the Bear River Migratory Bird Refuge.

b. \$986 reduction on account of continuation of leg. fur.

CHANGE IN LANGUAGE

It is desired to continue the unexpended balance of the appropriation for the fiscal year 1931 for the establishment of the refuge available to June 30, 1934, as there are certain negotiations for land pending at the present time which may not be completed by the close of the fiscal year 1933.

WORK UNDER THIS APPROPRIATION

Special legislation of Congress approved April 23, 1928, authorized an appropriation of \$350,000 for the establishment of the Bear River Migratory Bird Refuge to eliminate the menace to waterfowl and other migratory birds which had existed for some time in the bay at the mouth of Bear River, Great Salt Lake, Utah. The appropriation for establishment of the refuge was completed with the fiscal year 1931. The strong alkali waters of this area, which resulted from the run-off and evaporation of the fresh water developed conditions favorable to "duck sickness" which occasioned large annual losses of birds. About 35 miles of massive outer and division dikes were constructed in the broad marginal flats of the bay at this point and control works were installed in the Bear River to hold back fresh water by flooding the various units in this refuge for the production of food and to render them habitable by the birds. Almost 45,000 acres of land, water, and marsh areas are included within the confines of the dikes.

The administration of the refuge includes the maintenance of the outer and division dikes, the operation and maintenance of the river control works, construction and maintenance of roads and guard cabins, the patrolling and protection of the refuge, and planting and seeding of vegetation for the production of food and nesting sites for birds.

(k) MIGRATORY BIRD CONSERVATION REFUGES

Appropriation, 1932..... \$400,000

Appropriation, 1933..... 318,000
Budget Estimate, 1934..... 194,300
Decrease..... 125,700

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Acquisition of Land	\$378,878	\$293,000	\$175,000	\$118,000 (1)
Investigation of Food Resources of Migratory Bird Refuge Areas	5,625	6,000	6,000	- - -
Disease Investigations	5,700	5,000	5,000	- - -
Maintenance of Migratory Bird Conservation Refuges	9,797	14,000	14,000	- - -
Legislative furlough deduction..	- - -	- - -	-123,700	5,700 (2)
Total	400,000	318,000	194,300	125,700

(1) A decrease of \$118,000 in the project "Acquisition of Land" will be met by a reduction in the amount of land to be acquired for refuges and expenses incident to acquisition.

(2) \$5,700 reduction on account of continuation of legislative furlough.

CHANGES IN LANGUAGE

Language has been changed to provide proper reference to the authorization for the sum of \$200,000 to be appropriated for the fiscal year 1934, and to continue available any unexpended balances.

WORK UNDER THIS APPROPRIATION

The work under this appropriation consists of (a) the acquisition of land and water for migratory bird refuges throughout the United States; (b) the maintenance and administration of refuge areas acquired and the development of such areas and other reservations; (c) the study of food resources of proposed refuge lands and the improvement of migratory bird food and cover on existing refuges; and (d) the elimination of loss of migratory birds from alkali poisoning, oil pollution or other causes; under the Migratory Bird Conservation Act of Feb. 18, 1929 (U.S.C. Supp. IV, title 16, secs. 715-715r) which authorized a ten-year program for the establishment of a national system of refuges for the conservation and perpetuation of waterfowl and other migratory game birds.

The main activity at present is the acquisition of lands, with increasing administrative responsibilities by reason of such acquisitions. Incident to the purchase of lands it is necessary to examine, classify and evaluate land and soil cover, and to secure ownership status of all lands within the areas found suitable for refuges, to conduct purchase negotiations with the local owners, to make cadastral surveys to determine true acreages and to demarcate the boundaries of lands being acquired; and also to examine titles prior to conveyance of properties being acquired. More than 3,600,000 acres in 134 proposed refuge sites have been examined, appraised, mapped and ownership recorded. Lands in twelve refuge areas have been approved for purchase and lease by the Migratory Bird Conservation Commission and five have been established by Executive Order.

(1) MIGRATORY BIRD CONSERVATION COMMISSION

Appropriation, 1932..... \$5,000

Appropriation, 1933..... - *

Budget Estimate, 1934..... - *

* The unexpended balance of the appropriation for 1932 was continued available for 1933 and is recommended continued available for 1934.

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>Decrease</u>
Migratory Bird Conservation Commission.....	\$1,500	\$2,500*	\$1,000*	- - -

* Estimated unexpended balances carried forward from fiscal year 1932.

WORK UNDER THIS APPROPRIATION

The Migratory Bird Conservation Commission passes upon areas that are recommended for purchase or lease by the Secretary of Agriculture. Semi-annual meetings are held for this purpose. The Migratory Bird Conservation Act authorizes an annual appropriation of \$5,000 to cover the expenses of the Commission.

(m) CHEYENNE BOTTOMS MIGRATORY BIRD REFUGEAppropriation, 1932..... \$200,000Appropriation, 1933..... - *Budget Estimate, 1934..... - *

* The unexpended balances of the appropriations for 1931 and 1932 were continued available for 1933 and are recommended continued available for 1934.

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>Decrease</u>
Cheyenne Bottoms Migratory Bird Refuge.....	\$17,426	\$217,611*	- - -	- - -

* Unexpended balances of the appropriations for 1931 and 1932 continued available for 1933.

CHANGE IN LANGUAGE

It is necessary to continue the unexpended balances of the appropriations for the fiscal year 1931 and 1932 available for 1934 as complications have arisen in the negotiations for the purchase of refuge land which may not be cleared up during the present fiscal year.

WORK UNDER THIS APPROPRIATION

The establishment of the Cheyenne Bottoms Migratory Bird Refuge was provided for by Act of Congress approved June 12, 1930 authorizing an appropriation of \$250,000 to acquire 20,000 acres of land for a migratory bird refuge in the Cheyenne Bottoms, Barton County, Kansas. This sum has been appropriated. The area forms an important link in the chain of refuges to be established throughout the United States.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger-carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Departmental authorization for 1933 is \$16,600. The authorization for 1934, \$15,250, therefore constitutes a reduction of \$1,350.

THE HISTORY OF THE UNITED STATES

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JOHN F. JOHNSON

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BUREAU OF PUBLIC ROADS(a) ADMINISTRATIVE EXPENSES(b) HIGHWAY INVESTIGATIONS

These items are not included in the 1934 Budget as the activities previously carried under these appropriations are now being financed from the administrative fund of the Federal Aid Highway Act.

(c) FEDERAL AID HIGHWAY SYSTEM

Appropriation, 1932\$175,000,000

Appropriation, 1933\$100,000,000

Budget Estimate, 1934 39,814,387

Decrease\$ 60,185,613

The situation from the expenditure standpoint is shown as follows:

Funds Available, 1933:

1. Agricultural Act\$100,000,000

2. Plus unexpended balance carried

forward from 1932 19,651,496

\$119,651,496

3. Plus estimated amount of 1934 appro-

priation to be expended in 1933 13,000,000

Estimated Total Available, 1933\$132,651,496

Budget Estimate, 1934 \$39,814,387

Less estimated amount of

1934 appropriation to be

expended in 1933 13,000,000

Net Estimated Amount Available, 1934 26,814,387

Decrease\$105,837,109

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Federal Aid				
Highway System	\$129,805,187(1)	\$132,651,496(2)	\$26,814,387(3)	\$105,837,109

- (1) Exclusive of \$58,912,432 expended 1932 on account of advances to States under Emergency Construction Act of 1930.
- (2) Exclusive of \$85,000,000 estimated expenditures 1933 account of advances to States under Emergency Construction Act of 1932.
- (3) Budget estimate of \$39,814,387 less \$13,000,000 estimated to be expended in fiscal year 1933.

The decrease of \$105,837,109 is explained as follows:

The estimated expenditures for 1933, exceed the apportionment for that year because of the effect of the emergency construction highway funds (\$120,000,000) appropriated by the Act of July 21, 1932, and made available for use by the States in matching their regular Federal-aid funds in lieu of State funds. This is expediting the program and accordingly will increase the expenditures during 1933. At the present time (November, 1932) there is unappropriated from the 1933 authorization of \$125,000,000, \$67,400,000. Deducting from this unappropriated amount, \$15,840,744 to comply with the provisions of the Emergency Construction Act of 1930 and \$39,814,387 as estimated in the Budget for 1934 leaves \$11,744,869 of the 1933 authorization for future appropriations. Since there is no authorization for 1934, the estimated expenditure for 1934 covers only the carry-over into that year from previous year authorizations. \$185,613 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Under this appropriation the Federal Government cooperates with the several States and the Territory of Hawaii in improving the Federal Aid Highway System as provided in the Federal Highway Act of November 9, 1921, and subsequent amendments. The Federal Aid Highway System is often referred to as the 7 per cent system because the mileage in each State was initially limited to 7 per cent of the total highway mileage in such State. The routes in the system were selected by the States and approved by the Secretary of Agriculture. On June 30, 1932, the system included 200,012 miles of the principal highways of the country and connected all the principal cities, county seats and other market centers in the United States. About 101,124 miles of this system have been improved with Federal Aid and 15,606 miles additional were under construction or approved for construction on October 1, 1932. The initiation and immediate supervision of the construction of Federal-aid projects is under the State Highway Departments with engineers of the Bureau of Public Roads making frequent inspections and following and approving all work from the inception of a project until its completion.

This cooperative highway work was started by the Act of July 11, 1916, and since 1925 Congress has authorized the appropriation of funds for four two-year programs. The authorization of \$125,000,000 for the fiscal year 1933 is the last authorization to date. Legislation authorizing appropriations for 1934 and 1935 has passed the Senate and is pending before the House.

The apportionment of the 1933 authorization was made October 15, 1931, and became available immediately for new work. In making the apportionment a deduction of \$16,000,000 was made on account of funds advanced to the States under the \$80,000,000 Emergency Advance appropriation carried in the Act of December 20, 1930.

Funds are appropriated as needed to discharge obligations incurred under the authorizations. It is estimated that \$132,500,000 will be required to make necessary payments during the fiscal year ending June 30, 1933. The expenditures in the fiscal year 1933 will exceed the authorizations because of the enlarged and expedited program made possible by the emergency appropriation of \$120,000,000 carried in the Emergency Relief and Construction Act of July 21, 1932. Under this Act the States may use their share of the \$120,000,000 appropriation instead of State funds in matching

their regular Federal-aid funds. Sums so advanced will be deducted over a period of ten years from future apportionments of Federal Aid beginning in 1938.

On July 1, 1932, there was a cash balance of \$119,651,496 available. To meet estimated expenditures of \$132,500,000 during the fiscal year 1933 it will be necessary to use about \$13,000,000 of the \$39,814,387 carried in the Agricultural bill for 1934. The funds now available will provide for payments until after March 4, 1933, and as the Agricultural bill will pass by March 4, 1933, a supplemental appropriation for 1933 will be unnecessary.

(d) ADVANCES TO STATES - EMERGENCY CONSTRUCTION - 1933

The schedule contained in the Budget indicates an expenditure during 1933 under this special appropriation as follows:

<u>Project</u>	<u>Estimated</u> <u>1933</u>
Grants to States	\$120,000,000

(e) ADVANCES TO STATES - EMERGENCY CONSTRUCTION - 1931

The schedule contained in the Budget shows the expenditure during 1932 under this special appropriation.

(f) PUBLIC LANDS HIGHWAYS, 1931-1934

Explanation: The language submitted is necessary in order to make available until June 30, 1934, the unexpended balance (estimated at \$12,000) of the \$3,000,000 appropriated by the Emergency Construction Act approved December 20, 1930 (46 Stat., p. 1030) for roads on unappropriated or unreserved public lands, non-taxable Indian lands, and so forth. Continuation of availability of this appropriation is necessary in order to provide for authorized obligations which may not be consummated prior to June 30, 1933, and for supervision of work which will carry over into the fiscal year 1934.

(g) PUBLIC LANDS HIGHWAYS - EMERGENCY CONSTRUCTION - 1933-1934

Explanation: The language submitted is necessary in order to make available until June 30, 1934, the unexpended balance (estimated at \$12,560) of the \$2,000,000 appropriated by the Emergency Relief and Construction Act, approved July 21, 1932, for roads on unappropriated or unreserved public lands, non-taxable Indian lands, and so forth. Continuation of availability of this appropriation is necessary in order to provide for authorized obligations which may not be consummated prior to June 30, 1933, and for supervision of work which will carry over into the fiscal year 1934.

(h) MOUNT VERNON MEMORIAL HIGHWAY (No Year)

(i) MOUNT VERNON MEMORIAL HIGHWAY, 1931-1932

Explanation: The schedules submitted in the Budget for 1934 set forth expenditures during 1932 and estimated expenditures during 1933 under these two items.

(j) FLOOD RELIEF, GEORGIA AND SOUTH CAROLINA (1931-1934)

Explanation: The language submitted is recommended to make available until June 30, 1934, the unexpended balance (estimated at \$15,000) of the \$1,311,628.50 already appropriated for the purpose of carrying out the provisions of the Acts approved May 27, 1930 (46 Stat., p.386) and June 2, 1930 (46 Stat., p.489).

(k) FLOOD RELIEF, ALABAMA (1930-1933)

The schedule contained in the Budget indicates an estimated unobligated balance in this appropriation, which will lapse on June 30, 1933.

(l) FLOOD RELIEF, FLORIDA (No-Year)

Explanation: The schedules submitted in the Budget for 1934 set forth expenditures during 1932 and estimated expenditures during 1933 under this item.

(m) FLOOD RELIEF, MISSOURI, MISSISSIPPI, LOUISIANA
AND ARKANSAS (No Year)

Explanation: The schedule contained in the Budget indicates an estimated unobligated balance in this appropriation, which is available until expended.

(n) FLOOD RELIEF, VERMONT, NEW HAMPSHIRE, AND KENTUCKY (No Year)

Explanation: The schedule contained in the Budget indicates estimated expenditures under this item up to the full amount appropriated.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Departmental authorization for 1933 is \$45,000. The authorization for 1934 is in the same amount.

BUREAU OF AGRICULTURAL ENGINEERING(a) GENERAL ADMINISTRATION

Appropriation, 1932..... \$30,000

Appropriation, 1933..... 39,800
Budget Estimate, 1934..... 36,810
Decrease..... 2,990

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932.</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
General Administration	\$30,000	\$39,800	\$36,810	\$ 2,990 (1)

(1) \$2,990 reduction on account of continuation of legislative furlough.

ACTIVITIES UNDER THIS APPROPRIATION

This appropriation provides for the general administrative expenses of the Bureau, including finance and accounts, property records, mails and files, etc.

(b) AGRICULTURAL ENGINEERING

Appropriation, 1932..... \$553,840

Appropriation, 1933..... 478,890
Budget Estimate, 1934..... 425,187
Decrease..... 53,703*

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Utilization of Water in Irrigation..	\$ 78,554	\$ 73,000	\$ 73,100	+ 100 (1)
Irrigation Conduits and Structures..	28,382	25,800	21,400	- 4,400 (2)
Customs, Regulations and Laws Relat- ing to Irrigation.....	7,231	10,000	7,000	- 3,000 (3)
Run-off and Hydraulics of Drainage				
Channels.....	24,850	24,000	24,000	--
Drainage of Farm Lands.....	31,280	36,000	36,000	--
Customs, Regulations and Laws Relat- ing to Drainage.....	7,550	7,000	4,400	- 2,600 (4)
Control of Soil Erosion.....	7,356	7,300	7,400	+ 100 (5)
Development of Farm Lands.....	12,961	14,650	12,650	- 2,000 (6)
Livestock Shelters and Appurtenances	9,243	8,400	8,400	--
Improvement of Farm Buildings.....	4,235	10,000	8,000	- 2,000 (7)
Farm Building Construction Details..	5,377	--	--	--
Storage and Transportation of Farm				
Products.....	23,428	17,590	17,590	--
Corn Borer Control Machinery.....	75,026	63,200	53,287	- 9,913 (8)
Fertilizer Distributing Machinery...	23,813	19,600	19,600	--
Sugar Beet Production Machinery.....	11,415	14,200	14,200	--
Cotton Production Machinery.....	14,290	16,300	16,300	--
Sugar Cane Harvesting Machinery.....	493	--	--	--
Corn Production Machinery.....	12,417	14,700	14,700	--
Utilization and Cost of Farm Power				
and Machinery.....	7,726	6,100	6,100	--
Machinery for Controlling Insect				
Pests.....	9,468	11,000	11,000	--
Artificial Drying of Crops.....	12,438	9,120	9,120	--
Cotton Ginning.....	53,715	48,630	48,130	- 500 (9)
Miscellaneous Research.....	18,450	10,600	8,210	- 2,390 (10)
Advice and Assistance.....	31,142	31,700	29,700	- 2,000 (11)
Legislative furlough deduction.....			-25,100	25,100 (12)
Total.....	510,840	478,890	425,187	53,703*

* Apparent decrease of \$53,703; actual decrease of \$53,416, the \$387 difference representing an apparent increase by transfer of this amount from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

1940-1941

<p> Date </p>	<p> Description </p>	<p> Amount </p>	<p> Balance </p>
<p> 1940-1-1 </p>	<p> Balance </p>	<p> 100.00 </p>	<p> 100.00 </p>
<p> 1940-1-15 </p>	<p> Cash </p>	<p> 50.00 </p>	<p> 150.00 </p>
<p> 1940-1-30 </p>	<p> Cash </p>	<p> 25.00 </p>	<p> 175.00 </p>
<p> 1940-2-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 185.00 </p>
<p> 1940-2-15 </p>	<p> Cash </p>	<p> 15.00 </p>	<p> 200.00 </p>
<p> 1940-2-28 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 210.00 </p>
<p> 1940-3-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 220.00 </p>
<p> 1940-3-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 230.00 </p>
<p> 1940-3-31 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 240.00 </p>
<p> 1940-4-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 250.00 </p>
<p> 1940-4-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 260.00 </p>
<p> 1940-4-30 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 270.00 </p>
<p> 1940-5-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 280.00 </p>
<p> 1940-5-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 290.00 </p>
<p> 1940-5-31 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 300.00 </p>
<p> 1940-6-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 310.00 </p>
<p> 1940-6-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 320.00 </p>
<p> 1940-6-30 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 330.00 </p>
<p> 1940-7-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 340.00 </p>
<p> 1940-7-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 350.00 </p>
<p> 1940-7-31 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 360.00 </p>
<p> 1940-8-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 370.00 </p>
<p> 1940-8-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 380.00 </p>
<p> 1940-8-31 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 390.00 </p>
<p> 1940-9-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 400.00 </p>
<p> 1940-9-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 410.00 </p>
<p> 1940-9-30 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 420.00 </p>
<p> 1940-10-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 430.00 </p>
<p> 1940-10-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 440.00 </p>
<p> 1940-10-31 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 450.00 </p>
<p> 1940-11-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 460.00 </p>
<p> 1940-11-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 470.00 </p>
<p> 1940-11-30 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 480.00 </p>
<p> 1940-12-1 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 490.00 </p>
<p> 1940-12-15 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 500.00 </p>
<p> 1940-12-31 </p>	<p> Cash </p>	<p> 10.00 </p>	<p> 510.00 </p>

The reduction of \$53,703 is explained as follows:

(1) Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary", which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$4,400 reduction due to compulsory retirement of one employee under Section 204 of the Economy Act and by curtailment of work, and discontinuing four part time employees.

(3) \$3,000 decrease by curtailment of the work.

(4) \$2,600 reduction by discontinuance of some phases of the work.

(5) Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary", which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(6) \$2,000 decrease under Development of Farm Lands by curtailment of the work.

(7) \$2,000 reduction under Improvement of Farm Buildings by curtailment of certain phases of the work which have been completed.

(8) Apparent reduction of \$9,913; actual reduction, \$10,000, an apparent increase of \$87 by transfer from "Salaries, Office of the Secretary", which has been correspondingly reduced, as pro rata of supply handling charges for 1934. This \$10,000 decrease under Corn Borer Control Machinery will be effected by curtailment of some phases of the work.

(9) \$500 reduction under Cotton Ginning by restrictions on travel and additional economies.

(10) \$2,390 decrease under Miscellaneous Research will be effected by discontinuance of some phases of the work.

(11) \$2,000 reduction under Advice and Assistance will be effected by discontinuing the services of one draftsman.

(12) \$25,100 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work being done under this appropriation consists of research, both field and laboratory, more than 90 per cent of which is in cooperation with other bureaus of the Department of Agriculture, the State agricultural experiment stations, and, in a few cases, with other agencies such

as trade associations. The work falls into six subject matter groups relating to the application of engineering to agriculture which may be designated as follows: (1) irrigation, (2) drainage, including soil erosion control, (3) development of farm lands, (4) structures, (5) mechanical equipment, and (6) cotton ginning investigations. Each of these six groups includes one or more projects under way so that in the ultimate subdivision the Bureau deals with 20 definite research projects besides 2 more designated respectively as miscellaneous research and advice and assistance. Under miscellaneous research are classed those minor research activities which are intermittent in character or emergency projects which can not be foreseen. Advice and assistance refers to the giving out of information by letter, farmers' bulletins, motion pictures, exhibits and radio.

Irrigation:

The irrigation work includes a number of sub-projects, all of which may be grouped as studies planned to aid farmers in the utilization and apportionment of water for irrigation and the organization and operation of irrigation enterprises. This work is confined to the arid and semi-arid sections of the United States and has for its fundamental purpose the conservation of irrigation water supply through the development of the best methods of obtaining and handling water from its source to its application to the land by the farmer.

Drainage, including Soil Erosion Control:

The Bureau's work in drainage of farm lands may be broadly described as investigations of design, construction, operation and maintenance of drains and drainage structures and of the means of securing adequate drainage for farm lands through the establishment of drainage districts. The primary purpose is to develop information which, when applied, will result in securing effective drainage at the lowest cost. In the field of soil erosion control the Bureau is charged with the engineering phases of the Department's study to develop the best methods of controlling soil erosion.

Farm Land Development:

The subject of farm land development includes studies, the ultimate purpose of which is to make the most effective use of farm land. The engineering phases are directed toward putting farms in the best possible physical condition to accomplish that end. More specifically, the Bureau's work deals with methods of removing obstructions to cultivation, the readjustment of field sizes and shapes, the provision of adequate drainage and erosion control measures, and the like.

Structures:

Farm buildings are studied to determine the requirements that buildings for various purposes must meet and the development of structural procedure by which these objects will be accomplished. Studies of dairy barns, potato and other storages, and greenhouses are in progress to determine fundamental requirements for such structures.

Mechanical Equipment:

In the field of mechanical equipment, the Bureau's work is designed to determine definitely the working requirements of the various machines and implements employed on farms. The other work divides itself into three classes: (1) studies relating to the adaptation of machines to the planting, tillage and harvesting of particular crops; (2) the processing of crops as, for instance, artificial grain and forage drying; and (3) the use of mechanical means of combatting crop pests.

Cotton Ginning Investigations:

Work under this project is planned to develop the fundamental mechanical laws that govern the preparation and ginning of cotton and the effect of the various factors in the preparation and ginning of the seed cotton on the ginned lint and to devise ways by which present methods of preparation and ginning can be improved.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Departmental authorization for 1933 is \$5,975. The authorization for 1934, \$3,115, therefore constitutes a reduction of \$2,860.

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Note:- Also see Miscellaneous Section for "Soil Erosion Investigations".

BUREAU OF AGRICULTURAL ECONOMICS

(a) GENERAL ADMINISTRATIVE EXPENSES

Appropriation, 1932 \$290,030

Appropriation, 1933 288,090

Budget Estimate, 1934 267,750

Decrease 20,340

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
General Administration	\$285,869	\$288,090	\$267,750	\$20,340 (1)

(1) The reduction of \$20,340 is explained as follows:

(a) There is a reduction of \$1,440 due to compulsory retirements under Section 204 of the Economy Act. Since there is an apparent increase of \$800 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, the actual reduction is \$1,440.

(b) \$19,700 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work under this appropriation covers the general administration of the work of the entire bureau. It includes the activities of the chief and assistant chiefs in formulating general policies to be acted upon by the various divisions of the bureau, as well as the direction and general supervision of all of the research, service and regulatory work. In addition, direct supervision is exercised over all of the various service units connected with the business administration of the bureau.

(b) FARM MANAGEMENT AND PRACTICE

Appropriation, 1932 \$480,760

Appropriation, 1933 395,467

Budget Estimate, 1934 381,467

Decrease 13,980

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase</u> <u>or Decrease</u>
Agricultural Finance	\$68,560	\$68,000	\$68,000	- - -
Land Economics and Land Utilization	101,332	102,100(a)	116,833	\$14,733 (1)
Farm Population and Rural Life	28,398	25,000	25,000	- - -
Farm Management and Costs	210,158	200,367	200,367	- - -
Corn Borer Research	32,333	- - -	- - -	- - -
Legislative furlough deduction	- - -	- - -	-26,713	-26,713 (2)
Total	440,781	395,467(a)	381,437	-13,980

(a) Exclusive of \$15,000 transferred from Foreign Competition and Demand.

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The decrease of \$13,980 is explained as follows:

(1) \$14,733 apparent increase under Land Economics and Land Utilization to provide for expansion necessary in order that the bureau may be in a position to furnish information needed in connection with the National Land Use Planning Committee. This work was so urgent that \$15,000 has been transferred from the appropriation for Foreign Competition and Demand during the fiscal year 1933. There is also an apparent increase of \$200 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934.

(2) \$28,713 reduction on account of continuation of legislative fur-lough.

There has been a rapid transfer of public lands to private ownership with insufficient regard to the uses to which the land was best adapted or to the demand for its products. The lack of wise land use policies, both Federal and State, has contributed to the distressed condition in agriculture at the present time. The present agricultural depression has clearly emphasized the need for immediate, coordinated effort on the part of the Federal and State governments, as well as other agencies interested in agricultural development, in mapping out land use policies which will not only alleviate present distress but insure that mistakes of the past will not be repeated in the future.

The Committees working on these problems and other agricultural workers need much basic information which is not now available. Legislative committees in Congress and in the various States are also handicapped by lack of adequate information in working out a solution to the difficult problem of disposing of large areas of land reverting to public ownership because of tax delinquency and tax sales, and land that for any reason is submarginal. The purpose of the work of this bureau is to supply the need for detailed information.

CHANGE IN LANGUAGE

It is recommended that the language be amended by striking out the amount and the words "Provided, That of this amount \$150,000 may be used in" and inserting the words "and for" and putting the amount at the end of the paragraph. The paragraph will then read as follows:

"Farm Management and Practice: To investigate and encourage the adoption of improved methods of farm management and farm practice, and for ascertaining the cost of production of the principal staple agricultural products."

This recommendation will simplify the accounting procedure under the item. The projects "Farm Management" and "Cost of Production" are now carried on as one unit. It is impossible to separate the two lines of work as they must be carried on simultaneously in most studies of farm operation. The cost work is merely one phase of farm organization studies.

WORK UNDER THIS APPROPRIATION

The work under this appropriation consists of economic research dealing primarily with production problems. One of the first aims is to help bring about more profitable organization and operation of individual farms.

As a basis, however, agriculture as a whole is considered to determine the types of farming, by geographical units, the factors and conditions that have shaped these types, and the trends of development. Work is carried on to determine the most effective form of organization of farms, including size, crops and livestock grown, financial and labor organizations, and other matters concerning the farm as an economic producing unit. Costs of production are studied and various methods of operation are compared with regard to their effect on costs and returns.

Through credit studies, information is obtained and made available on amounts, distribution, and trends of farm-mortgage debt; prevailing costs and terms and conditions of loans from each source of credit; influences of monetary policies upon supply and cost of credit for agriculture; the place of merchant credit in farm finance and other matters. Information on farm taxation is assembled showing amounts and trends of taxes on farm property sources of governmental revenue in rural areas, purposes for which the farmers' "Tax dollar" is spent, relation of farm taxes to farm income, farm tax delinquency, and possible farm tax reductions.

The farm-insurance studies deal with problems of insurance protection for farmers against loss from fire, windstorms, hail, liability, and other hazards to property and persons on the farm.

Land utilization studies cover present uses of land for agriculture; land resources with reference to their possibilities for future use for crops, pasture, and forests, trends in production and consumption, and probable future need for farm land. Cooperative work is being done on outlining economic programs for adjustments in the use of land.

The social factors involved in farmers' organizations are studied as a basis for developing sound membership-relations policies and effective methods of spreading information concerning these organizations among farm people. Expenditures of farm families for living purposes are obtained and analyzed as one index of the economic situation in various localities. The movement of population is also studied.

(c) MARKETING AND DISTRIBUTING FARM PRODUCTS

<u>Appropriation, 1932</u>	\$900,000
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<u>Appropriation, 1933</u>	812,320
<u>Budget Estimate, 1934</u>	<u>742,270</u>
Decrease	70,050

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Marketing Fruits & Vegetables ...	\$86,433	\$86,000	\$86,000	- - -
Market Price Trends and Transportation	114,590	120,500	120,500	- - -
Marketing Livestock, Meats & Wool	91,769	92,000	92,000	- - -
Marketing Dairy and Poultry Products	36,943	36,500	36,500	- - -
Marketing Hay, Feed & Seed	64,962	64,100	64,100	- - -
Cotton Handling & Marketing	32,157	32,000	32,000	- - -
Cotton Standards & Testing	46,660	42,000	42,000	- - -
Utilization of Cotton	34,122	32,500	32,500	- - -
Investigation of Cotton Gin- ning	44,749	45,000	45,000	- - -
Grain Investigation	101,964	98,000	98,000	- - -
Market Information	43,852	43,000	43,000	- - -
Outlook Reports	115,987	120,720	109,290	\$11,430 (1)
Legislative furlough deduction ..	115,987	120,720	58,620	58,620 (2)
Total.....	814,188	312,320	742,270	70,050

The reduction of \$70,050 is explained as follows:

(1) Decrease of \$11,430 is to be effected by general reduction in expenditures on the Outlook Reports. Since there is an apparent increase of \$890 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, the actual decrease is \$12,320.

(2) \$58,620 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This appropriation covers research on problems relating primarily to marketing and distributing. This research includes studies of trends of production, demand and prices for farm products. All available data are gathered and analyzed and reports published which show the present economic situation with regard to each major farm product and also point out the probable trends. An annual outlook report embodying this information is published in the early spring of each year for the purpose of assisting farmers in making plans for the farm year. Further reports are issued from time to time on the agricultural situation and reports on intentions to plant and breed are prepared in the spring and fall. All of this work aims to furnish the farmer with information which will enable him to avoid losses which result from extreme variations in production. The material is used extensively in agricultural extension work and in teaching vocational agriculture.

In addition the physical problems connected with handling, grading, packing, shipping and marketing of products are studied and recommendations are made for improvements. Numerous laboratory studies are carried on such as spinning and ginning tests of various types and grades of cotton, and milling, baking and other tests connected with the grading of grain. Work is being done to establish new and additional uses for cotton. Extensive research is carried on concerning problems connected with the grading of

farm products. Standardized grades have been prepared for a large number of products and demonstrational work is carried on to educate the producers and the trade in their use. The work under this appropriation is devoted primarily to meeting the demand of producers and the trade for information on problems connected with the marketing of farm products.

(d) CROP AND LIVESTOCK ESTIMATES

Appropriation, 1932 \$804,120*

Appropriation, 1933 785,020

Budget Estimate, 1934 725,642

Decrease 59,378

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Crop and Livestock Reports	\$712,273	\$704,760	\$699,382	\$5,378 (1)
Production and Marketing				
Statistics	82,612	80,260	80,260	- - -
Legislative furlough deduction.	11,775	775	54,000	54,000 (2)
Total	794,885	785,020	725,642	59,378

The reduction of 59,378 is explained as follows:

(1) Since there is an apparent increase of \$1,279 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced as pro rata supply handling charges for 1934, the actual reduction on Crop and Livestock Estimates is \$6,657. Of this \$1,980 is due to compulsory retirements under Section 204 of the Economy Act. The remainder will be met by further reductions in operating expenditures.

(2) \$54,000 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This service provides statistical information on the acreage, yield, production and value of more than 80 crops; numbers and value of all the principal classes of livestock on farms; monthly reports of farm prices; monthly reports of milk production; periodical estimates of stocks of important commodities on farms and in secondary hands; reports on intentions to plant and breed; and other regular and special releases. In addition to the collection and maintenance of statistical records, monthly forecasts of production are made in advance of harvest for 61 crops, and semi-annual forecasts are made of hog production.

Statistics gathered through all of the various activities of the bureau are brought together and made available. Statistics are prepared for publication in the Department Yearbook, statistical bulletins and other publications.

* Total appropriation for 1932 was \$1,187,500 which included Foreign Competition and Demand.

(e) FOREIGN COMPETITION AND DEMAND

Appropriation, 1932*.....	\$383,380
<u>Appropriation, 1933</u>	<u>356,790</u>
<u>Budget Estimate, 1934</u>	<u>298,800</u>
Decrease	57,990

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Foreign Competition and Demand	\$325,867	\$356,790(a)	\$298,800	\$57,990 (1)

(a) Inclusive of \$15,000 transferred to Farm Management and Practice.

The reduction of \$57,990 is explained as follows:

(1) \$57,990 apparent decrease but actual decrease of only \$42,990 since \$15,000 has been transferred during 1933 to the appropriation Farm Management and Practice. Of this decrease \$8,850 will be met by a reduction in the allowances for heat, light and quarters in the foreign field, and the remainder by general curtailments in expenditures. \$17,350 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This work carries out the provisions of the Act of June 5, 1930, providing for the organization of a foreign agricultural service. This Act provides for the acquiring of information regarding the production, marketing and distribution of agricultural products in foreign countries, and the dissemination of this information throughout the United States for the benefit of farmers and others. This bureau is making studies of the agricultural situation in various foreign countries, with special regard to the probable demand for American agricultural products and the competition which products from the United States will probably encounter in the future from foreign products. This service renders practical assistance to producers and shippers in the United States by furnishing prompt, accurate information with regard to foreign markets. It facilitates the movement of agricultural products abroad also by acquainting foreign importing and consuming interests with the official standards of the United States for various products, and, in the case of fruit, by making inspections, at times, of arrivals in European ports. Practical suggestions are made also to American producers with regard to the best methods of preparing their products to meet foreign needs and preferences.

* In 1932 Crop and Livestock Estimates and Foreign Competition and Demand were carried in one appropriation of \$1,187,500.

(f) MARKET INSPECTION OF FARM PRODUCTS

<u>Appropriation, 1932</u>	\$580,026
<u>Appropriation, 1933</u>	537,796
<u>Budget Estimate, 1934</u>	500,286
Decrease	37,510

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Inspection of Fruits & Vegetables	\$303,112	\$310,900	\$310,390	\$ 510 (1)
Grading of Canned Fruits & Vegetables	20,320	19,600	19,600	- - -
Grading of Dairy & Poultry Products	41,306	41,500	41,500	- - -
Inspection, of Hay, Beans, Broomcorn, etc	56,967	58,000	58,000	- - -
Grading of Meat	31,845	37,000	37,000	- - -
Grading of Tobacco	64,331	65,796	65,796	- - -
Grading of Rice	4,993	5,000	5,000	- - -
Legislative furlough deduction	- - -	- - -	37,000	37,000 (2)
Total	522,874	537,796	500,286	37,510

The reduction of \$37,510 is explained as follows:

- (1) \$510 decrease to be effected in office rentals by obtaining space in Federal buildings.
- (2) \$37,000 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This work covers the inspection and grading of fruits and vegetables, canned fruits and vegetables, dairy and poultry products, hay, beans, seeds, broomcorn, rice, peanuts, meats and tobacco. This service is permissive in character, the Federal inspector performing the service only at the request of an interested party and issuing certificates which are prima facie evidence in the courts of the United States as to the quality and condition of the shipment inspected.

The demand for the service is constantly greater than can be met with available facilities although increases in the appropriation have been granted from year to year. The work is in a large measure self-supporting, but can not be made entirely so. While the service is of a permissive character, no one being required to use it, it has the effect of regulation, since the mere fact that a Federal inspector is available who can be called upon to inspect a shipment acts as a deterrent upon receivers who might reject a shipment without sufficient cause, or indulge in other sharp practices. For this reason inspectors are maintained in certain receiving markets, at the urgent request of shippers, although there may not be inspection work at all times to make the work self-supporting.

(g) MARKET NEWS SERVICE

Appropriation, 1932 \$1,498,020

Appropriation, 1933 1,380,808

Budget Estimate, 1934 1,304,400

Decrease 76,408

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Market Reports on Livestock				
Meats and Wool	\$515,831	\$510,600	\$507,040	\$3,560 (1)
Market News Service on Fruits				
and Vegetables	552,613	548,730	545,730	3,000 (2)
Market News Service on Dairy				
and Poultry Products	198,244	195,800	193,800	2,000 (3)
Market News Service on Grain,				
Hay, Feed and Seed	110,408	108,678	107,830	848 (4)
Market News Service on				
Tobacco	21,953	17,000	17,000	- - -
Legislative furlough deduction			67,000	67,000 (5)
Total.....	1,399,049	1,380,808	1,304,400	76,408

The reduction of \$76,408 is explained as follows:

(1) \$3,560 decrease under Market News Service on Livestock, Meats and Wool will be met by \$1,560 compulsory retirements under Section 204 of the Economy Act, and the remainder by general curtailments in expenditures. Since there is an apparent increase of \$500 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, the actual reduction is \$4,060.

(2) \$3,000 decrease under Market News Service on Fruits and Vegetables will be met by a saving in rentals of \$557 by obtaining space in Federal buildings, and the remainder by general curtailments in operating expenditures. Since there is an apparent increase of \$560 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, the actual decrease is \$3,560.

(3) \$2,000 reduction on Market News Service on Dairy and Poultry Products will be met by a saving of \$556 in rentals by obtaining space in Federal buildings, and the remainder by general curtailments in operating expenditures. Since there is an apparent increase of \$200 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, the actual decrease is \$2,200.

(4) \$848 decrease under Market News Service on Grain, Hay, Feed and Seed will be met by a saving in rentals of \$270 and the remainder by general curtailments in operating expenditures. Since there is an apparent increase of \$140 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, the actual decrease is \$988.

(5) \$67,000 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The market news service covers livestock, meats and wool, fruits and vegetables, dairy and poultry products, grain, hay, feed, seed, tobacco and other products. The service is built upon information gathered by the bureau's representatives in large central markets. Offices in the large terminal markets must be maintained in order to gather the information to be distributed to the shipping districts. These markets are connected with leased telegraph wires. The bureau obtains under contract the exclusive use of certain telegraph wires throughout the day, and employs its own telegraphers who transmit the market information over the wires in code and decode the incoming messages. The market reporters are in the markets early in the morning, and report receipts and prices. The information goes over the leased wire to Washington and to all branch offices where it is combined with other reports and released to the public. In addition, telegraph and mail reports are furnished the bureau by common carriers and other reporters. A constant stream of market information is kept going over the wires and is given publicity throughout the country, especially in important producing districts, by telephone, telegraph, radio, mail, bulletin boards, newspapers and other means:

(h) ESTIMATES OF COTTON GRADE AND STAPLE

<u>Appropriation, 1932</u>	\$420,000
<u>Appropriation, 1933</u>	372,500
<u>Budget Estimate, 1934</u>	353,477
<u>Decrease</u>	19,023

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Grade and Staple Estimates ...	\$377,841	\$372,500	\$353,477	\$19,023 (1)

The reduction of \$19,023 is explained as follows:

- (1) \$2,500 decrease to be effected by general reduction in expenditures.
- (2) \$16,523 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The purpose of this work is to gather information and prepare estimates periodically concerning the grade and staple of cotton ginned at stated intervals from the crop, the number of bales of each grade and staple carried over from one season to another, and the grade and staple of cotton consumed by domestic mills. Five reports covering the entire country and two reports for each state, besides a variety of special reports, are regularly issued during the ginning season. The carry-over and consumption reports are issued on a national basis once annually.

Quality in American cotton has long been recognized as one of the most important factors in the competition with cotton of other growths throughout the world, and in the extent of its consumption. It is essential, therefore, in the National agricultural program that systematic information be made

available concerning the quality of the American crop and of changes which may be taking place not only throughout the cotton belt as a whole but in its more important regions and localities. To understand properly the significance of this information it is necessary to combine with it information concerning the amounts of each quality of cotton carried over from one season to another, and the amounts of each quality of cotton consumed in this country and exported to others. This information has a particular importance at this time because of intensified competition which American cotton has encountered in recent years in the world market.

This work was provided for by an Act of Congress approved March 3, 1927.

(i) TOBACCO STOCKS AND STANDARDS

Appropriation, 1932 \$25,000

Appropriation, 1933 24,400

Budget Estimate, 1934 23,200

Decrease 1,200

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Tobacco Stocks and Standards	\$24,972	\$24,400	\$23,200	\$1,200 (1)
(1) <u>\$1,200 reduction on account of continuation of legislative furlough.</u>				

WORK UNDER THIS APPROPRIATION

The work under this appropriation consists of the compilation and publication of quarterly reports covering the quantities of leaf tobacco in the hands of dealers and manufacturers separated as to type and as to certain divisions within the type. They are published as of the first day of January, April, July and October, and represent the comparison of statistics of supplies held by dealers and manufacturers, and submission of which is mandatory.

As a basis for these reports standards have been formulated and further work is being done. Scientific study is being given to the physical changes that take place in tobacco in storage, and the elements of grade in tobacco. These relate particularly to determinations of color, body, elasticity, and the correlations existing between these and other factors with respect to standard grades. Tobacco stocks have an important bearing on prices paid to growers for new stock tobacco, and an accurate and detailed analysis of such stock is essential to the protection of the growers' interests. The reports form the basis of studies relating to the prospective market position of different types of tobacco, conducted on behalf of growers by State and Federal Agencies. The work is required by Act approved January 14, 1929.

(j) ENFORCEMENT OF THE PERISHABLE AGRICULTURAL COMMODITIES ACT

Appropriation, 1932 \$350,000

Appropriation, 1933 175,100

Budget Estimate, 1934 166,426

Decrease 8,674

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Enforcement of the Perishable				
Agricultural Commodities Act...	\$128,610	\$175,100	\$166,426	\$8,674
(1) <u>\$8,674 reduction</u> on account of continuation of legislative furlough.				

WORK UNDER THIS APPROPRIATION

This work consists of carrying out the provisions of the Perishable Agricultural Commodities Act, approved June 10, 1930. The general purpose of this act is to regulate certain practices in the marketing of fruits and vegetables in interstate and foreign commerce. This regulation is accomplished through a system of licensing of handlers of these commodities. The act stipulates certain practices which are declared to be unlawful. The more important of these practices are the making of fraudulent charges by commission merchants or brokers; the rejection by a buyer of a shipment upon its arrival in the market, or the failure to deliver on the part of the seller without reasonable cause; the dumping or destruction without reasonable cause of fruits and vegetables when received by commission merchants; and the making of any fraudulent or misleading statements by the handlers of these commodities concerning the condition or quality or disposition thereof; or the failure or refusal to correctly account therefor.

(k) ENFORCEMENT OF THE U.S. COTTON FUTURES AND U.S. COTTON STANDARDS ACTS

Appropriation, 1932 \$236,560*

Appropriation, 1933 289,060

Budget Estimate, 1934 269,480

Decrease 19,580

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>decrease</u>
Administration of the Acts	\$19,823	\$19,450	\$19,450	- - -
Future and Spot Market Investigations and Cotton Price Quotation	56,991	58,000	58,000	- - -
Preparation and Distribution of Official Cotton Standards ..	155,290	138,610	138,810	+ \$200 (1)
Supervision of Cotton Classing..	62,022	73,000	73,000	- - -
Legislative furlough deduction..	- - -	- - -	19,780	-19,780 (2)
Total	294,126	289,060	269,480	-19,580
* Additional amount of \$75,000 was available in 1932 from Second Deficiency Act, 1931.				

(1) There is an apparent increase of \$200 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata supply handling charges for 1934, but no actual increase.

(2) \$19,780 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This work consists of carrying out the provisions of two regulatory Acts. Both the Cotton Futures and the Cotton Standards Act authorize the Department to promulgate standards for cotton. The Cotton Futures Act provides for the classification of cotton tendered for delivery on future contracts. Under this act supervision is maintained over the commercial differences reported by designated spot markets, and a cotton price quotation service is maintained. In addition to furnishing authentic information of prices the differences quoted serve as a basis for the settlement for cotton, other than middling, delivered on future contracts. The Cotton Standards Act makes mandatory the use of the official cotton standards in interstate and foreign commerce when cotton is sold by grade. Copies of the official standards are prepared and sold to the public and supervision is maintained over the classing of cotton by licensed classers.

(1) ENFORCEMENT OF THE U.S. GRAIN STANDARDS ACT

Appropriation, 1932\$860,040

Appropriation, 1933 833,370

Budget Estimate, 1934 771,630

Decrease 61,740

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Administration of the Act....	\$766,355	\$767,370	\$764,610	\$2,760 (1)
Inspection Efficiency.....	36,309	37,000	37,000	- - -
Board of Review.....	29,100	29,000	29,000	- - -
Legislative furlough deduction	- - -	- - -	-58,980	58,980 (2)
Total	831,764	833,370	771,630	61,740

(1) \$2,760 decrease to be effected by saving in office rentals by obtaining space in Federal buildings.

(2) \$58,980 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This work consists of carrying on the service and regulatory work required by the Grain Standards Act. This Act provides substantially four things: (1) to establish official standards of the United States for grain; (2) to license inspectors to apply the official standards; (3) to supervise the work of such licensed inspectors to the end that there will be a correct and uniform application of the standards, and to entertain appeals from grades assigned by such inspectors in cases where a party to a grain transaction is dissatisfied with the grade originally assigned by the licensed inspector; (4) to conduct hearings and publish findings in cases of violations of the Act. This authority is designed to prevent and do away with fraud and misrepresentation.

At the present time, official standards have been promulgated for shelled corn, wheat, oats, rye, grain sorghums, feed oats, mixed feed oats and barley. These standards are in general use throughout the United States and in our export commerce. They form the basis of merchandising transactions in the various steps from the producer to the consumer. It is imperative that an inspection agency which serves an industry which is highly competitive should be organized and maintained on a plane which merits the highest confidence in its integrity. Grain inspectors and grain supervisors stand as impartial and unbiased arbiters between sellers and buyers in the use of this service has been so well established that it forms a basic feature of the highly organized merchandising practices in both domestic and export commerce.

(m) ADMINISTRATION OF THE U.S. WAREHOUSE ACT

Appropriation, 1932 \$312,200

Appropriation, 1933 313,020

Budget Estimate, 1934 296,220

Decrease..... 16,800

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>decrease</u>
Administration of the Act	\$293,054	\$313,020	\$296,220	\$16,800 (1)
(1) \$16,800 reduction on account of continuation of legislative furlough.				
WORK UNDER THIS APPROPRIATION				

This appropriation covers the administration of the provisions of the Warehouse Act. The duties of the bureau involve investigational work to determine whether a product can properly be warehoused under the Act. Regulations are then prepared covering the conditions under which it may be stored. When an application is received for a license, investigations are made to ascertain whether the warehouse is a suitable structure and has the necessary facilities, whether the warehouseman is of good repute, has the proper financial responsibility and experience, etc. After the license is issued, the warehouse is inspected regularly in order to ascertain that the law and regulations are being complied with and that the interests of the patrons are being safeguarded.

The present unsatisfactory economic situation has caused a continuing demand for increased service. The work is of particular importance at this time because of the very large surpluses of many agricultural products and the difficulties encountered in securing adequate credit to carry such surpluses. Cooperative associations, distributors, and others are insisting that their products be stored in Federally licensed warehouses since the receipts from such warehouses provide much needed collateral for loans. Warehouses are now licensed for the storage of the following products: Cotton, grain, wool, nuts, tobacco, broomcorn, dry beans, sirup, dried fruits, canned foods, cotton seed, cold-packed fruit, seeds, and cherries in brine.

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[illegible]

(n) ENFORCEMENT OF THE STANDARD CONTAINER, HAMPER AND PRODUCE AGENCY ACTS

Appropriation, 1932 \$45,000

Appropriation, 1933 43,800

Budget Estimate, 1934 34,120

Decrease 9,680

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Enforcement of the Standard Container Acts	\$22,909	\$24,000	\$24,000	- - -
Enforcement of the Produce Agency Act	9,980	19,800	12,300	\$7,500 (1)
Legislative furlough deduction	- - -	- - -	- 2,180	2,180 (2)
Total	32,889	43,800	34,120	9,680

(1) \$7,500 decrease to be effected by general reduction in expenditures on Enforcement of the Produce Agency Act.

(2) \$2,180 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Three acts are administered under this appropriation, i.e., the Standard Container Act of 1916, the Standard Container Act of 1928 (Hamper Act) and the Produce Agency Act.

The Standard Container Act of 1916 fixes the sizes for Climax baskets and containers for small fruits and vegetables. The Standard Container Act of 1928 provided standards for hampers, round stave and splint baskets. The enforcement of these Acts involves the testing of samples of these containers in order to determine whether they comply with prescribed standards, the collection of evidence, and the preparation, for submission to the Department of Justice, of cases against those who fail to comply with the provisions of the Act. Most of the work is educational, and advisory. Thousands of containers are examined each year and manufacturers are advised as to whether their containers come within the provisions of the law.

The produce Agency Act aims to prevent the destruction or dumping, without good and sufficient cause, of farm produce received in interstate commerce by commission merchants and others and to require them truly and correctly to account for all farm produce received by them.

Under the Produce Agency Act 189 complaints were received during the past year. These related principally to failures to account correctly to the shipper in consignment transactions in fruits and vegetables, eggs and dressed poultry. Convictions in Federal courts were obtained in 17 cases. Violations of this Act which occurred within nine months of the filing of complaints are also violations of the Perishable Agricultural Commodities Act and are handled under the latter Act, except in cases in which criminal prosecution seems appropriate.

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(o) COMPLETION OF WOOL WORK, WAR INDUSTRIES BOARD

<u>Appropriation, 1932</u>	\$6,000
<u>Appropriation, 1933</u>	3,000
<u>Budget Estimate, 1934</u>	<u>2,814</u>
Decrease	186

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Completion of Wool Work	\$3,687	\$3,000	\$2,814	\$186 (1)
(1) <u>\$186 reduction on account of continuation of legislative furlough.</u>				
WORK UNDER THIS APPROPRIATION				

This work consists of carrying on the work of the Domestic Wool Section of the War Industries Board. The completion of the work is dependent upon decisions on cases pending in the Federal courts.

(p) WOOL MARKETING STUDIES

<u>Appropriation, 1932</u>	\$50,000
<u>Appropriation, 1933</u>	39,300
<u>Budget Estimate, 1934</u>	<u>32,400</u>
Decrease	6,900

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Wool Marketing Studies	\$38,061	\$39,300	\$32,400	\$6,900 (1)

(1) Of the decrease of \$6,900, \$1,600 will be met by compulsory retirements under Section 204 of the Economy Act and the remainder by general curtailment of operating expenditures; \$2,600 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This work consists of carrying out the provisions of the Act of May 17, 1928 which provides for acquiring and diffusing useful information relative to the standardization, grading, preparation for market, marketing, utilization, transportation, handling and distribution of wool, and of approved methods and practices relative thereto, including the demonstration and promotion of the uses of grades for wool in accordance with the standards promulgated by the Department of Agriculture.

This Act authorizes an appropriation of not to exceed \$50,000 annually for research and demonstration work on wool from funds collected under the "Completion of the Wool Work (War Industries Board)" and which remain undistributable in the Treasury because it has been found impossible to as-

certain the growers to whom they belong. The funds are being used in perfecting the standards for wool and demonstrating their use. Methods of handling and marketing wool are also being studied and much laboratory work is being done on questions of moisture, shrinkage, and similar matters.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The estimate for 1934 is \$22,200, which is the same amount as the purchase authorization of the bureau from the general Departmental authorization for 1933.

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BUREAU OF HOME ECONOMICS(a) General Administrative Expenses

Appropriation, 1932..... \$28,000

Appropriation, 1933..... 27,900

Budget Estimate, 1934..... 26,049

Decrease..... 1,851

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase</u>
General Administrative Expenses	<u>\$27,797</u>	<u>\$27,900</u>	<u>\$26,049</u>	<u>\$1,851 (1)</u>

(1) The decrease of \$1,851 is explained as follows:

(a) Apparent increase of \$241 by transfer from "Salaries Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling, for 1934.

(b) \$2,092 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The activities under this appropriation include: (1) the office of the Chief of bureau, (2) the business office of the bureau where all general administrative activities of the bureau, such as personnel, accounts, budget, correspondence, and bureau files, are handled, and (3) the bureau library.

(b) Home Economics Investigations

Appropriation, 1932..... \$218,700

Appropriation, 1933..... 205,465
Budget Estimate, 1934..... 186,700
Decrease..... - 18,765

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
<u>Home Economics Information</u>	\$25,150	\$26,075	\$25,581	\$494 (1)
<u>Foods and Nutrition:</u>				
Utilization of Food Products	29,450	30,375	29,617	758 (1)
Studies in Human Nutrition	31,490	30,415	29,656	759 (1)
Composition of Foods	15,400	16,325	15,890	435 (1)
Institutional Cookery	5,455	5,425	5,280	145 (1)
<u>Household Management and Standards</u> <u>of Living:</u>				
Standards of Living	18,000	16,925	16,500	425 (1)
Family Budgets	9,500	9,425	9,200	225 (1)
Food Consumption	14,500	15,425	15,040	385 (1)
Housekeeping Efficiency				
Studies	8,770	8,695	8,488	207 (1)
Household Equipment Studies	8,000	6,790	6,610	180 (1)
<u>Textiles and Clothing:</u>				
Cotton Utilization	29,350	28,775	28,060	715 (1)
Wool Utilization	13,590	10,815	10,578	237 (1)
<u>Legislative furlough reduction</u>				
tion	- - -	- - -	-13,800	13,800 (1)
Total	208,655	205,465	186,700	18,765

(1) There is an increase of \$500 and a decrease of \$18,765 against this appropriation. The apparent increase of \$500 is by transfer from "Salaries Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling for 1934, and it has been distributed among the projects under this appropriation. This makes a total net decrease of \$4,965 which has been pro rated equally against all projects in order to maintain as closely as possible the continuity of work throughout the bureau.

(2) \$13,800 reduction on account of continuation of legislative furlough.

10. *Chlorophyll a* and *Chlorophyll b* contents were determined by spectrophotometry using the method of Lichtenthaler and Whistler (1987).

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• *Journal of the American Academy of Child and Adolescent Psychiatry*, 1997, 36, 10, 1123-1130.

WORK UNDER THIS APPROPRIATION

The research work of the Department in the field of Home Economics is conducted under this appropriation. No field stations are maintained, the work all being done in Washington. The investigations now under way relate to:

Home Economics Information: The dissemination of results of Home Economics research in both technical and popular forms so that all groups requesting information on the utilization of food, textiles, and other products of agriculture, and on standards of living may receive full benefit of the work of the Bureau.

Foods and Nutrition Investigations: (1) Analyzing methods of preparation of food with a view to originating, improving, and standardizing processes; (2) Establishing the relation between variety, quality, and nutritive value of foods and their uses in food preparation; (3) Determining the elements which enter into food quality and the methods of detecting and measuring these, and in cooperation with producing groups investigating the influence of variety, breed, and their productive factors on edible quality; (4) Determining the value of foods in human nutrition, how the nutritive value may be altered by different methods of production, and the effect of handling, cooking, and other methods of preparation on the nutritive value; (5) Collecting, evaluating, and summarizing data on the composition of all classes of foods, for the use of workers in the field of foods and nutrition; (6) A study of equipment for institutional cookery, methods of preparation and service of foods; (7) Determining the efficiency of different types of household equipment under varying conditions as a guide to selection and use.

Household Management and Standards of Living: (1) Collection and analyses of facts which will serve as a basis for determining the adequacy of the living standards maintained by different groups in the population; (2) Furnishing the factual background needed in the preparation of budgets to provide homemakers, teachers, and social workers with material on the satisfactory administration of family income; (3) Preparing material on household budgeting and accounting and on purchasing from the consumers' standpoint, to guide homemakers in making the best possible use of the family's resources; (4) Determining the kind, amounts, and money value of the food materials consumed by different groups of the population, to provide information for improving the healthfulness and economy of the diet of the American people; (5) A study of the efficient use of time and money in performing the work of the home.

Textiles and Clothing Investigations: (1) Determining the relative value of different varieties, grades, and staple lengths of cotton; (2) Improving methods of utilization and care of cotton fabrics in the home; (3) Originating new fabrics to meet specific household needs at various economic levels; (4) Demonstrating to homemakers efficient methods of utilizing American grown cotton; (5) A study of the relative usefulness of different kinds and grades of the wool, mohair, and other animal fibers which are, and can be, produced in this country and the relative merits of the fibers, when used in fabrics alone and in combination, in order to determine the fiber best adapted for different consumer uses.

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BUREAU OF PLANT QUARANTINE(a) GENERAL ADMINISTRATIVE EXPENSES

Appropriation, 1932..... \$88,000

Appropriation, 1933..... 87,230

Budget Estimate, 1934..... 81,196

Decrease..... 6,034

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase</u>
General Administration.....	\$87,951	\$87,230	\$81,196	\$6,034(1)

(1) \$6,034 decrease is explained as follows:

(a) Apparent increase of \$300 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$6,334 reduction on account of continuation of legislative furlough.
WORK UNDER THIS APPROPRIATION

The funds appropriated for general administrative expenses are used for the payment of salaries and expenses of the personnel engaged in general administrative work.

The work under this subappropriation consists of the following functions:

- (a) Determination of policies;
- (b) General administrative supervision of all departmental and field activities;
- (c) Business operations;
- (d) Handling of general information relating to Federal quarantines, and preparation of cases on quarantine violations; and
- (e) Maintenance of a technological unit to act in an advisory capacity, and to supervise and coordinate the disinfection and sterilization of plants and plant products according to methods required by the various quarantines.

Under the project, General Administration, a Technological unit is maintained to operate in an advisory capacity, and to supervise and to coordinate the disinfection and sterilization treatments of plants and plant products applied under the various quarantine regulations. The efforts of this unit are directed towards standardizing the methods of treatment, increasing their effectiveness and lowering their cost, and devising new treatments where necessary to facilitate compliance with the regulations of the Bureau of Plant Quarantine in the enforcement of the quarantines promulgated under the Plant Quarantine Act.

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UNITED STATES DEPARTMENT OF AGRICULTURE

WASHINGTON, D. C.

TO THE DIRECTOR, BUREAU OF PLANT INDUSTRY

FROM THE DIRECTOR, BUREAU OF ENTOMOLOGY

RE: Report of the Director, Bureau of Entomology, dated June 1, 1914, on the subject of the "Insects of the United States and Possessions, and the Insects of the World." The report is a valuable contribution to the knowledge of the insects of the United States and Possessions, and the insects of the world. It is a comprehensive and authoritative work, and it is a pleasure to receive it from the Bureau of Entomology.

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During the season 1932, a sterilizer for cottonseed was developed which made safe the transportation of cottonseed for planting from the pink bollworm regulated area. This allowed high grade seed grown in the regulated area, which was worth \$10 to \$12 per ton at the oil mill, to be shipped outside the regulated area and sold for \$60 per ton. A method of disinfection of cotton lint of the pink bollworm by passing it through rollers under compression was developed which eliminates the necessity of either fumigation or compression to free the cotton from the pink bollworm. Sterilization of citrus fruit following an infestation of the Mexican fruit fly in the Lower Rio Grande Valley made possible the orderly marketing of that crop remaining on the trees at a good profit to the shippers for the portions sterilized. A method of fumigation of bananas for the Japanese beetle was modified so that complete protection could be obtained at a cost of around 35 cents a carload as contrasted to a cost of \$2.25 under the method formerly used.

(b) ENFORCEMENT OF FOREIGN PLANT QUARANTINES

Appropriation, 1932..... \$799,130 (a)

Appropriation, 1933..... 737,970

Budget Estimate, 1934..... 686,481

Decrease..... 51,489

(a) Inclusive of \$35,000 provided for expenditure in 1931 under an immediately available provision.

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>Decrease</u>
Import & Permit Service.....	\$ 69,853	\$ 70,110	\$ 70,260	+ \$150 (1)
Port Inspection Service.....	291,765	301,240	300,294	- 946 (2)
Mexican Border Inspection Service.....	259,373	277,505	277,605	+ 100 (3)
D.C. Inspection Service.....	32,753	34,510	34,510	- - -
Field Inspection Permit Material.....	13,184	10,305	10,305	- - -
Hawaiian Inspection Service.	18,560	18,600	18,600	- - -
Puerto Rican Inspection Service.....	20,239	25,700	25,700	- - -
Construction of Fumigation House, Presidio, Texas....	(a)	- - -	- - -	- - -
Legislative furlough deduction	- - -	- - -	-50,793	-50,793 (4)
Total	705,727	737,970	686,481	51,489

(a) Exclusive of expenditures made from \$35,000 made immediately available in 1931.

The reduction of \$51,489 is explained as follows:

(1) Apparent increase of \$150 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) a. \$1,098 actual decrease under Port Inspection because of a reduction in "rents" due to vacating of leased premises to move into new Federal Buildings.

b. Apparent increase of \$152 by transfer from "salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(3) Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(4) \$50,793 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

Work done under this appropriation involves the enforcement of (1) Foreign Plant Quarantines and regulatory orders issued under the Plant Quarantine Act of 1912, as amended; (2) rules and regulations governing the entry into the United States of railway cars and other vehicles from Mexico; (3) the Act of 1905 governing the importation of living insects into the United States; and (4) regulations governing the shipment of fruits and vegetables to the mainland from Hawaii and Puerto Rico.

The purpose of the foreign quarantines issued under the Plant Quarantine Act of 1912 is to prevent the entry into the United States of injurious plant pests from foreign countries. This involves in some instances the enforcement of complete embargoes against known infested products, the regulation of entry of any plant product coming to this country, and proper inspection methods to determine the freedom from injurious pests of the product offered for entry. This work necessitates the employment at all the principal maritime and border ports of entry in this country, of trained inspectors for the purpose of inspecting in cooperation with customs authorities the baggage of passengers arriving from foreign ports; the inspection of cargo which may contain plant products; the inspection of ships' stores, and the inspection and proper safeguarding of material permitted entry under the quarantine regulations. The large number of interceptions of dangerous pests at the various maritime and border ports of entry in this country demonstrates beyond any question the importance of continuing this work. The presence in this country of such injurious pests as Japanese beetle, which came in prior to the enforcement of any plant quarantine by this Government, and the damage this insect and others of a similar character cause, further serve to demonstrate the importance of rigid inspection at all ports of entry of plant products offered for commercial entry and of all such commodities carried by persons entering the United States from other countries.

The enforcement of the rules and regulations governing the entry into the United States of railway cars and other vehicles from Mexico requires the inspection and fumigation of such vehicles as may be likely to carry pink bollworm of cotton and similar injurious pests. Such vehicles are fumigated at the expense of the carrier, the fees being paid into the United States Treasury.

The Act of 1905 governing the importation of living insects into the United States seeks to prevent the importation through the United States mails and otherwise, of injurious living insects which are not covered by any specific quarantine.

THE UNIVERSITY OF CHICAGO
DIVISION OF THE PHYSICAL SCIENCES
DEPARTMENT OF CHEMISTRY

REPORT OF THE
COMMISSIONER OF THE GENERAL LAND OFFICE
FOR THE YEAR 1900

CHICAGO
PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS
1901

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Regulations governing the shipment of fruits and vegetables to the mainland from Hawaii and Puerto Rico undertake to prevent the movement from the infested area in Hawaii and Puerto Rico of any product likely to carry to the mainland any species of fruit fly. The work can be more economically and more satisfactorily and much more efficiently done at point of origin in these two cases than could be done on the mainland at port of entry.

(c) TRANSIT INSPECTION

Appropriation, 1932..... \$42,800

Appropriation, 1933..... 32,400
Budget Estimate, 1934..... 30,229
Decrease..... 2,171

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>Decrease</u>
Transit Inspection.....	\$42,190	\$32,400	\$30,229	\$2,171 (1)
(1) <u>\$2,171 reduction</u> on account of continuation of legislative furlough. WORK UNDER THIS APPROPRIATION				

While every effort is made to enforce at point of origin the domestic plant quarantines promulgated under the Plant Quarantine Act, carelessness and ignorance of quarantine regulations on the part of employees of shippers of plants and carriers of plants constitute a continuous source of danger to the uninfested portions of the country. In order to most effectively check on the violations of the domestic quarantines it has been found necessary and feasible to place inspectors at certain transfer points in the United States through which the greater portion of plant products and other products move by parcel post, express, and freight. Through the cooperation of the postal authorities and express and railway officials it has been possible to work out a system whereby the few inspectors employed in transit inspection work are enabled to observe at these transfer points a substantial percentage of the plant products which move through and obtain a check on the violations of the quarantines. Information thus gained is of value in bringing to the attention of the violators the fact that there is a check being made, and this results in greater care being exercised in the movement of plant products.

During the fiscal year 1932, 3,151 violations of the Federal quarantines were noted and appropriately disposed of by transit inspectors at some thirty-one transfer points.

(d) PREVENTING SPREAD OF PINK BOLLWORM

Appropriation, 1932..... \$497,000

Appropriation, 1933..... 375,000
Budget Estimate, 1934..... 379,804
Increase..... 4,804

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PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase</u>
Preventing Spread of Pink Bollworm	\$378,359(a)	\$375,000	\$379,804	\$ 4,804 (1)

(a) Inclusive of \$14,000 transferred to Mexican Fruit Fly.

(1) The increase of \$ 4,804 is explained as follows:

(1) a. \$25,000 for additional use of gin trash machines at gins in and out of the regulated area to enable the Department to obtain a more comprehensive knowledge of the pink bollworm conditions throughout the entire cotton belt. A recent finding of a rather heavy infestation of pink bollworm in wild cotton in southern Florida has opened up the possibility that pink bollworm may have been spread from this area, and makes it necessary that there be more gin trash inspection throughout the Southeastern part of the United States.

Gin trash inspection during the present season has brought to light an infestation in north Florida in cultivated cotton which places this insect on the border of the main cotton belt. The infestation thus far discovered is a light one, but its existence, close as it is to the Georgia line, emphasizes the need for intensive work in north Florida and adjoining States at the earliest possible moment.

The finding of heavy infestation of pink bollworm in wild cotton in southern Florida, and its presence in cultivated cotton in north Florida places all other Southern States under suspicion of infestation. This is especially true of Georgia because of movement of seed cotton and cotton seed from the locality of the north Florida infestation to Georgia for ginning and milling. It is necessary that there be an increase in the field scouting work throughout the Southeastern part of the cotton belt in order that any incipient infestations may be promptly eradicated. There is need for additional work in connection with supervision of oil mills because newly discovered areas infested or near to infestation make necessary the adoption of precautions with which the average miller is not familiar. Additional work in connection with supervision of sterilization of cotton seed at all gins in the regulated area is needed as in the case of the oil mills, to acquaint ginners with the purpose of precautions and how to observe them with which they have not heretofore had occasion to become acquainted.

Sterilization of cottonseed at the gins is of particular importance, especially in lightly infested areas, since it is a safeguard against establishing new infestations through the movement of infested cottonseed from the gins. It is essential that there be even closer supervision of this sterilization work than has been the case in the past.

Heavy floods, one occurring in late September and one in early October in the Rio Grande, caused extensive overflow of that stream in and near Presidio, Texas, where the heaviest infestation of pink bollworm exists. Approximately, 4,500 acres of infested cotton were submerged by one or both of these floods.

Picked cotton then piled in the fields was swept away besides a quantity, as yet unestimable, of cotton plants. A survey of the flooded areas from Presidio on down stream must be made to determine distances to which living worms may have been carried in debris as it is known the insect is capable of living under water for some days.

b. Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(2) \$20,296 reduction on account of continuation of legislative furlough.
WORK UNDER THIS APPROPRIATION

The funds appropriated under this item are used for the purpose of determining the extent of any infestation of pink bollworm which may be present in the United States and preventing spread of this insect to uninfested areas of this country. This work includes (1) scouting to determine the limits of any infestation found, and scouting outside the infested areas to determine whether or not the pink bollworm is present; (2) inspections to determine degree of infestation at points within the regulated area so that control measures and quarantine operations may be intelligently conducted; and (3) enforcement of such quarantine and regulatory measures as the supervision of sterilization of cottonseed and fumigation of cotton lint and linters where necessary, the supervision of compression of cotton lint, the supervision of oil mills and maintenance of certain road inspection stations for the inspection of vehicular traffic which may carry infested articles out of the regulated area.

Improvements have been made in the methods of scouting and inspection of such a nature as to enable us to do a larger amount of work, cover a larger area and secure more comprehensive knowledge of actual infestation conditions throughout the United States than has heretofore been possible. Certain mechanical contrivances have been perfected by those in charge of the pink bollworm work which make the inspection work much more efficient, and makes the application of the inspection work possible over a much wider area than was the case when only field scouts were used.

(e) PREVENTING SPREAD OF DATE SCALE

<u>Appropriation, 1932.....</u>	\$65,460
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<u>Appropriation, 1933.....</u>	38,615
<u>Budget Estimate, 1934.....</u>	<u>27,925</u>
<u>Decrease.....</u>	<u>10,690</u>

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Preventing Spread of Date Scale.....	\$63,514	\$38,615	\$27,925	\$10,690 (1)

(1) The reduction of \$10,690 is explained as follows:

a. \$8,615 actual decrease. Because of the success which has been attained in the eradication program, less money will be needed in 1934 for this work.

b. Apparent increase of \$25 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

c. \$2,100 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The funds appropriated under this item are used for the purpose of eradicating the Parlatoria date scale which has been found in limited areas in California and Arizona. These two States cooperate actively in the eradication work.

(f) PREVENTING SPREAD OF THURBERIA WEEVIL

Appropriation, 1932..... \$34,500

Appropriation, 1933..... 10,250

Budget Estimate, 1934..... 3,275

Decrease..... 6,975

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Preventing Spread of Thurberia Weevil.....	\$23,694	\$10,250	\$3,275	\$6,975 (1)

The reduction of \$6,975 is explained as follows:

(a) \$6,750 decrease is due to the fact that there is a reduction in the production of cotton in the Postvale Area of Arizona due to a diminishing water supply in wells which furnish irrigation in this section.

(b) \$225 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The Thurberia weevil is a native variety of the Mexican cotton boll weevil, and occurs in a limited area in the State of Arizona. Under natural conditions, this insect lives on wild Thurberia cotton. With the production of cultivated cotton close to the area infested by the Thurberia weevil, the cultivated crop has been attacked. It has demonstrated unquestioned ability to breed in cultivated cotton, and with its ability to live under arid conditions is a serious menace to the cotton grown under the irrigated conditions of the Southwest.

The work done under this appropriation involves the regulation of movement into uninfested regions of cotton, cottonseed, and other articles likely to carry this weevil.

On account of the reduction in the amount of cotton planted in the infested area, it has been possible to substantially reduce the estimate for next year.

(g) PREVENTING SPREAD OF GYPSY AND BROWN-TAIL MOTHS

Appropriation, 1932..... \$648,580

Appropriation, 1933..... 400,000

Budget Estimate, 1934..... 443,388

Increase..... 43,388

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase</u>
Preventing Spread of Gypsy and Brown-tail Moths.....	\$614,375	\$400,000	\$443,388	\$43,388 (1)

The increase of \$43,388 is explained as follows:

(1) a. \$75,000 increase is needed because:

The enforced reduction in the work in the Barrier Zone in 1933 by reason of the reduction in appropriations will undoubtedly result in the filtering into the Barrier Zone and building up of infestation from east of that Zone. This reduction in work because of reduced appropriations compels inadequate scouting and inadequate spraying. Both of these functions must be built up to more nearly normal proportions if the infestations in the Barrier Zone are to be eliminated.

The Barrier Zone has never been more than adequately patrolled and in view of the reduced work, it will be necessary in future to catch up to the normal point in addition to continuing as nearly as possible the normal amount of work. Unless the Barrier Zone work is to be somewhere near adequately performed it might as well not be done at all and the Zone abandoned.

The Barrier Zone is twenty to thirty miles in width, extending along the western border of New England and the eastern border of New York State from Long Island to Canada, and has been maintained successfully for nine years. The State of New York has contributed heavily to the maintenance of this Zone with the understanding the Federal Government would carry its share of the burden. It would be extremely inadvisable to subject the country west of the Zone to certain gypsy moth infestation by the abandonment of this work.

Increased funds are necessary because eradication work on Long Island, in cooperation with the Conservation Department of New York, must be carried on. Certain nurseries are within the regulated area on Long Island and it is necessary that inspection work and certification work be carried on in order that products may move interstate.

1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations

$$\begin{aligned} \frac{dx}{dt} &= f(x, y, z) \\ \frac{dy}{dt} &= g(x, y, z) \\ \frac{dz}{dt} &= h(x, y, z) \end{aligned}$$

where f, g, h are continuous functions of x, y, z and satisfy certain conditions. It is shown that under these conditions the system has a unique solution for any initial conditions.

2. In the second part of the paper, the problem of the stability of the solutions is considered. It is shown that if the functions f, g, h satisfy certain conditions, then the solutions are stable.

3. In the third part of the paper, the problem of the periodicity of the solutions is considered. It is shown that if the functions f, g, h satisfy certain conditions, then the solutions are periodic.

4. In the fourth part of the paper, the problem of the bifurcation of the solutions is considered. It is shown that if the functions f, g, h satisfy certain conditions, then the solutions bifurcate.

5. In the fifth part of the paper, the problem of the chaos of the solutions is considered. It is shown that if the functions f, g, h satisfy certain conditions, then the solutions are chaotic.

6. In the sixth part of the paper, the problem of the ergodicity of the solutions is considered. It is shown that if the functions f, g, h satisfy certain conditions, then the solutions are ergodic.

7. In the seventh part of the paper, the problem of the mixing of the solutions is considered. It is shown that if the functions f, g, h satisfy certain conditions, then the solutions are mixing.

Increased funds are further made necessary by the emergency which arose in the gypsy moth work during the last week in July, 1932, when a heavy infestation of gypsy moth was found in the northeastern part of Pennsylvania. This infestation now involves an area of approximately seventy (70) square miles and has undoubtedly been established over a period of many years in that section of the State. It is in an area where agriculture is not predominant and the infestation was overlooked for a long time. Being outside the Barrier Zone, every effort must be made to eradicate the infestation, otherwise spread to other parts of the country is certain. Funds to handle this infestation were only available by the diversion of funds from the Barrier Zone work in the amount of approximately \$70,000. This has further weakened the work in the Barrier Zone.

b. Apparent increase of \$150 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(c) \$31,762 reduction on account of continuation of legislative furlough.
WORK UNDER THIS APPROPRIATION

The money appropriated under this item is used for the purpose of preventing the spread of the gypsy and brown-tail moths out of the area known to be infested in the New England States; eradication, in cooperation with New York authorities, of an infestation on Long Island; and the maintenance of a barrier zone consisting of a strip of territory twenty to thirty miles wide along the western border of the New England States and eastern border of New York State, reaching from Long Island to Canada. The prevention of spread of the insect from the area infested in New England involves inspection and certification of nursery stock, quarry products, stone, timber, lumber and of similar articles moving out of the infested area. The work in the Barrier Zone involves inspection of the woodland and other areas in the Zone for the purpose of discovering any infestation which may exist. Infestations which may be found are cleaned up by treating the egg clusters and by spraying the woodland at the proper season of the year. Spraying the woodland areas frequently necessitates the use of more than a mile of hose running from the spraying machines into the woodlands in the hills of New England. High powered equipment is necessary and the use of quite a large personnel in the form of ordinary labor is also necessary.

(h) PREVENTING SPREAD OF EUROPEAN CORN BORER

<u>Appropriation, 1932</u>	\$950,000
<u>Appropriation, 1933</u>	295,000
<u>Budget Estimate, 1934</u>	<u>211,900</u>
Decrease.....	83,100

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Preventing Spread of European Corn Borer.....	\$862,418	\$295,000	\$211,900	\$83,100(1)

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is divided into two main sections: the first section deals with the general situation and the second section deals with the progress of the work.

2. The second part of the report deals with the results of the work during the year. It is divided into two main sections: the first section deals with the results of the work and the second section deals with the conclusions.

3. The third part of the report deals with the conclusions of the work during the year. It is divided into two main sections: the first section deals with the conclusions and the second section deals with the recommendations.

4. The fourth part of the report deals with the recommendations of the work during the year. It is divided into two main sections: the first section deals with the recommendations and the second section deals with the conclusions.

5. The fifth part of the report deals with the conclusions of the work during the year. It is divided into two main sections: the first section deals with the conclusions and the second section deals with the recommendations.

6. The sixth part of the report deals with the recommendations of the work during the year. It is divided into two main sections: the first section deals with the recommendations and the second section deals with the conclusions.

(1) The first part of the report deals with the general situation of the country and the progress of the work during the year. It is divided into two main sections: the first section deals with the general situation and the second section deals with the progress of the work.

The reduction of \$83,100 is explained as follows:

(1) a. \$70,000 decrease, is possible because the requisite scouting work can be done with less money than was appropriated for the fiscal year 1933.

b. Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

c. \$13,200 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

The work under this appropriation is for the purpose of enabling the Department to be kept advised as to the spread and status of the European corn borer and to furnish information to those States that may desire it. It is believed essential that the scouting work be continued.

(i) PREVENTING SPREAD OF JAPANESE BEETLE

Appropriation, 1932..... \$445,000

<u>Appropriation, 1933</u>	350,000
<u>Budget Estimate, 1934</u>	<u>349,837</u>
<u>Decrease</u>	163

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Preventing Spread of Japanese Beetle.....	\$410,845	\$350,000	\$349,837	\$163 (1)

(1) The decrease of \$163 is explained as follows:

a. \$25,000 increase is essential to an adequate and effective performance of work in connection with the supervision of nurseries and green-houses. This consists of the inspection and certification of plant products moving out of the infested area to uninfested areas of the United States. This service is the backbone of the Japanese beetle quarantine as its thorough and efficient performance results in the prevention of spread in soil about the roots of plants which would be the method of spread most likely to bring about a newly established infestation. This also involves the supervision of the work of incorporating poison into the soil of nurseries thus making possible, without danger of spreading the insect, shipment of plants with soil about the roots from infested nurseries.

b. Apparent increase of \$125 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

c. \$288 decrease due to reduction in rents made possible by moving into new Federal Buildings.

d. \$25,000 reduction on account of continuation of legislative furlough.

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu UV-160U ultraviolet-visible spectrophotometer. The concentration of chlorophyll was expressed as $\mu\text{g mL}^{-1}$ of the sample.

WORK UNDER THIS APPROPRIATION

The money appropriated under this item is used for the enforcement of the quarantine to prevent spread of the Japanese beetle. The beetle is present in twelve States and the District of Columbia. The insect is carried in the grub stage in soil on the roots of nursery stock. One of the important means of prevention of spread, therefore, is the inspection and certification of plant products moving out of nurseries in the infested area.

More than thirty-three million plants were thus inspected and certified during the past fiscal year. It is necessary in many instances to treat such nursery stock and this treatment is supervised by the Department. Repressive measures are carried on at certain isolated points where incipient infestations are located. Scouting is necessary to determine the presence of the beetle in localities outside the regulated area so that quarantine measures may be properly invoked. Other products besides nursery stock are regulated and supervision of fumigation of certain fruits is required, together with inspection and certification of farm products such as sweet corn and similar articles.

Nursery interests in the twelve States wholly or partly included in the regulated area total 2,805 establishments containing 69,110 acres valued at \$69,000,000. Their annual sales are about \$30,000,000. More than seven and one-half million packages of fruit and vegetables were inspected and certified out of the regulated area during the last fiscal year and about 50,000 packages were fumigated as a condition of certification before they could be shipped.

(j) PREVENTING SPREAD OF WHITE PINE BLISTER RUST

Appropriation, 1932..... \$10,200

Appropriation, 1933..... 9,900

Budget Estimate, 1934..... 9,306

Decrease 594

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Preventing Spread of White Pine Blister Rust.....	\$9,565	\$9,900	\$9,306	\$594 (1)
(1) <u>\$594 reduction on account of continuation of legislative furlough.</u>				

WORK UNDER THIS APPROPRIATION

The work under this appropriation is the inspection of nurseries and surroundings to provide for movement of nursery stock under conditions which will not carry white pine blister rust infection to localities not now known to be infected. The quarantine on account of this disease provides for the regulation of the interstate movement of five leaf pines, and currant and gooseberry bushes which are known carriers of the disease.

(k) PREVENTING SPREAD OF PHONY PEACH DISEASE

Appropriation, 1932.....\$12,000

Appropriation, 1933..... 11,480

Budget Estimate, 1934..... 10,799

Decrease 681

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Increase or</u> <u>Decrease</u>
Preventing Spread of Phony Peach Disease.....	\$11,386	\$11,480	\$10,799	\$681
(1) <u>\$681 reduction on account of continuation of legislative furlough.</u>				

WORK UNDER THIS APPROPRIATION

The funds appropriated under this item provide for the inspection of nurseries and the vicinity of nurseries in the area known to be infected and for the certification of peach nursery stock from those nurseries which are permitted to ship such stock interstate. The purpose of the work is to prevent the spread of the phony peach disease on peach trees from those States now known to be infected to areas free from the disease.

(1) PREVENTING SPREAD OF MEXICAN FRUIT FLY

Appropriation, 1932.....\$124,960

Appropriation, 1933..... 122,080

Budget Estimate, 1934..... 114,197

Decrease..... 7,883

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Preventing Spread of Mexican Fruit Fly.....	\$115,385(a)	\$122,080	\$114,197	\$7,883 (1)

(a) Exclusive of \$14,000 transferred from the Pink Bollworm appropriation.

(1) The increase of \$7,883 is explained as follows:

(a) Apparent increase of \$50 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$7,933 reduction on account of continuation of legislative furlough.

CHANGE IN LANGUAGE

The change in language from Mexican fruit worm to Mexican fruit fly is recommended because the insect covered by this subappropriation is a fly, and not a worm. The correct designation is Mexican fruit fly.

WILLIAM H. HARRIS, JR.
PRESIDENT

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PRESIDENT

WORK UNDER THIS APPROPRIATION

The Mexican fruit fly was found in the Lower Rio Grande Valley of Texas in the crop season of 1927. Eradication measures were immediately undertaken by the United States Department of Agriculture in cooperation with the State of Texas. While these efforts were apparently successful, there have been recurring infestations, due possibly in some instances at least, to reinfestation which came into Texas from Mexico. This insect exists at the present time just across the Rio Grande River from Brownsville, Texas. The constant shipping to Mexican towns along the border of infested fruits from the interior of Mexico presents a continual menace to the fruit cultures on this side of the line.

A continuance of these activities is necessary to prevent the spread of the Mexican fruit fly from the infested area in the Lower Rio Grande Valley in Texas, to eradicate it from that area, and to eliminate so far as possible the infestation existing in the small area across the Rio Grande River from Brownsville, Texas, in order to minimize the risk of reintroduction of the pest.

The activities under this project consist of grove inspection, spraying and control in Mexico, certification of single box shipments, fruit tree census, packing house inspection, road stations, administration and maintenance of equipment.

During the season grove inspections are made once in thirty days as the average period for development of the larvae of the Mexican fruit fly is about four weeks. There is a tremendous increase in acreage devoted to citrus production in the valley, approximately a million trees coming into new bearing each year. During the shipping season 1931-32, beginning in September, 1931 and ending in March, 1932, some sixty-one separate infestations of the insect were found in the Lower Rio Grande Valley. The States outside the infested area susceptible to infestation depend on the Federal authorities to prevent the movement of commodities which might be detrimental to the fruit-growing cultures outside the infested area. When infestations can be found before they build up to serious proportions, eradication efforts are much less expensive and result in destruction of less fruit for the growers.

There continue to be found infestations of the Mexican fruit fly across the line in Mexico in the vicinity of Matamoros. It is necessary that there be certain inspection and cleanup work performed, all of which is done with the hearty cooperation of the citizens of Mexico residing in the infested area. It will be necessary to continue this work in order to prevent the building up of infestation immediately adjacent to the American citrus cultures, which would be a constant menace to citrus production in the Rio Grande Valley.

(M) CERTIFICATION OF EXPORTS

<u>Appropriation, 1932.....</u>	\$30,300
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<u>Appropriation, 1933.....</u>	20,200
<u>Budget Estimate, 1934.....</u>	<u>13,553</u>
Decrease	1,642

PROJECT STATEMENT

<u>Project</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Certification of Exports....	\$21,538	\$20,200	\$18,558	\$1,642
<u>\$1,642 reduction on account of continuation of legislative furlough.</u>				
WORK UNDER THIS APPROPRIATION				

This appropriation is used for the purpose of inspection and certifying as to freedom from injurious insect pests and plant diseases of fresh fruits and vegetables intended for export in order that the sanitary requirements of foreign countries may be complied with by this country's exporters. Such fees as are collected for this inspection and certification work are deposited in the Treasury.

NEW LANGUAGE

In a paragraph preceding the last paragraph, the following new language is recommended:

The Advisory Federal Plant Quarantine Board, created by the Act making appropriations for the Department of Agriculture for the Fiscal Year 1929, approved May 16, 1928, is hereby abolished.

This new language is recommended for the following reasons:

- (1) The responsibility for the enforcement of the Plant Quarantine Act does and must of necessity rest upon the Bureau of Plant Quarantine as a unit and this responsibility can not be delegated. The same is true of related acts placed under the jurisdiction of this organization.
- (2) The setting up of an advisory board is confusing to the general public and encumbers the work to a degree which detracts from efficiency since board members are seldom, if ever, all available when needed for conference or action.
- (3) It is not possible to select from the Bureaus of the Department men who can take sufficient time from their ordinary duties to enable them to be of assistance in solving the quarantine problems which must be met not only from day to day, but from hour to hour.
- (4) A bureau set-up alone makes for more flexibility and more promptness in transacting business. This is especially important in the plant quarantine work since almost every question which arises is in the nature of an emergency and must be promptly settled according to the circumstances involved. These problems can best be met by those who are actively engaged in plant quarantine work in this organization and who are devoting all of their time to the solution of quarantine problems.
- (5) Those problems which require assistance of technical men in the way of advice are highly specialized problems which must be referred to the appropriate specialist, and this can be done more effectively and more advantageously by referring the question to the Chief of the Bureau concerned, who can secure for the Bureau of Plant Quarantine more reliable and more prompt advice than can be secured through the medium of a board.

THE HISTORY OF THE

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CHAPTER I

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Limitation on Purchase of Passenger Carrying Vehicles.

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the Bureau in order to provide for consideration of this item at the same time the general estimates of the Bureau are under consideration. The purchase authorization of the Bureau from the general Departmental authorization for 1933 is \$9,935. The authorization for 1934, \$6,600 therefore constitutes a reduction of \$3,335.

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ENFORCEMENT GRAIN FUTURES ACT

Appropriation, 1932 \$221,480

Appropriation, 1933 218,838
Budget Estimate, 1934 201,370
 Decrease 17,468

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
Enforcement Grain Futures Act	\$193,941	\$218,838	\$201,370	\$17,468(1)

(1) The reduction of \$17,468 is explained as follows:

(a) \$2,891 of this amount represents estimated reductions in field office rentals and includes savings that will be effected by moving the Seattle office into the new federal building scheduled for occupancy soon after January 1, 1933.

(b) \$1,447 represents savings to be effected in personnel and miscellaneous expenses.

(c) Apparent increase of \$170 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(d) \$13,300 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION.

The work under this appropriation requires the control and supervision of future trading in grain on 14 boards of trade and exchanges designated as contract markets by the Secretary of Agriculture. This work is carried on through 7 field offices located at Chicago, Ill., Minneapolis, Minn., Kansas City, Mo., New York, N.Y., Omaha, Nebr., Seattle, Wash., and Sacramento, Calif., and involves: (1) observation of trading operations, (2) compiling and publishing daily reports on volume of trading and amounts of open interest, (3) examination of books and records of clearing members for the purpose of discovering and preventing irregularities, (4) examination of market news and gossip items to prevent the dissemination of false and misleading crop and market information, (5) maintaining a daily check on accounts of large traders, (6) investigation of complaints, and (7) special studies and investigations relating to economic functions and general utility of the future markets for hedging and merchandising purposes.

FOOD AND DRUG ADMINISTRATION(a) GENERAL ADMINISTRATIVE EXPENSES

Appropriation, 1932 \$105,455

Appropriation, 1933 104,800
Budget Estimate, 1934 96,827
Decrease 7,973

PROJECT STATEMENT

<u>Projects</u>	<u>Expended</u> <u>1932</u>	<u>Estimated</u> <u>1933</u>	<u>Estimated</u> <u>1934</u>	<u>Decrease</u>
General Administration	\$104,528	\$104,800	\$ 96,827	\$ 7,973 (1)

(1) The decrease of \$7,973 is explained as follows:

a. Apparent increase of \$40 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rate of supply handling charges for 1934.

b. \$8,013 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

To provide for overhead expenses, such as general supervision, accounting, editorial work, purchase and distribution of supplies, filing, recording, plumbing, electrical and mechanical work and the like, applicable to operations in connection with all the acts enforced by the Food and Drug Administration.

(b) ENFORCEMENT OF THE FOOD AND DRUGS ACT

Appropriation, 1932 \$1,315,865

Appropriation, 1933 1,265,219
Budget Estimate, 1934 1,188,224
Decrease 76,995

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the 1990s, the number of people in the world who are illiterate has increased from 1.2 billion to 1.5 billion. The number of illiterate people in the world is expected to increase to 1.7 billion by the year 2015. The number of illiterate people in the world is expected to increase to 1.7 billion by the year 2015.

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the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 250 million to 450 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

1. 2010年10月1日起，凡在中华人民共和国境内销售货物或者提供加工、修理修配劳务以及进口货物的单位和个人，均应按照《中华人民共和国增值税暂行条例》及实施细则缴纳增值税。

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PROJECT STATEMENT

| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase or</u>
<u>Decrease</u> |
|----------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| Beverages & beverage products \$ | 27,478 | \$ 27,835 | \$ 27,835 | - - - |
| Cereal Products | 38,961 | 39,220 | 39,220 | - - - |
| Chocolates & saccharin | 45,456 | 45,550 | 45,550 | - - - |
| Dairy products | 93,233 | 93,625 | 95,725 | +\$ 2,100 (1) |
| Eggs | 39,468 | 39,220 | 39,220 | - - - |
| Fishery products | 120,525 | 121,460 | 124,560 | + 3,100 (2) |
| Flavors & spices | 40,557 | 40,485 | 40,485 | - - - |
| Fruit products | 237,005 | 237,860 | 241,050 | + 3,190 (3) |
| Feeds, stock | 13,701 | 13,920 | 13,920 | - - - |
| Meat products & poultry | 15,345 | 15,185 | 15,185 | - - - |
| Miscellaneous | 12,419 | 12,650 | 12,650 | - - - |
| Nuts & nut products | 15,500 | 15,185 | 15,185 | - - - |
| Oils and fats | 16,809 | 16,450 | 16,450 | - - - |
| Vegetable products | 165,535 | 165,745 | 167,845 | + 2,100 (4) |
| Crude drugs | 22,982 | 22,775 | 22,775 | - - - |
| Pharmaceuticals | 156,765 | 157,185 | 157,185 | - - - |
| Proprietary preparations | 154,187 | 155,585 | 155,585 | - - - |
| Veterinary preparations | 8,426 | 8,855 | 8,855 | - - - |
| Vitamin preparations | 23,692 | 24,040 | 24,040 | - - - |
| Mapes Amendment | 12,521 | 12,389 | 12,389 | - - - |
| Legislative furlough deduction | - - - | - - - | -87,485 | -87,485 (5) |
| Total | 1,260,565 | 1,265,219 | 1,188,224 | -76,995 |

The increase of \$10,490 is made up of \$490 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, and \$10,000 for urgently needed increased work, as follows:

(1) (a) Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$2,000 for additional work on dairy products. The current allotment suffices only for routine attention to the butter and cheese industries. Excessive moisture, deficiency in fat and short weight are prevalent violations, the control of which is essential for protection of the consumer and of the honest manufacturer. The \$2,000 increase would be employed not for this routine inspection but to permit more intensive regulatory control looking to the correction of certain conditions in the dried milk industry, which have resulted in the manufacture of products containing extremely high bacterial counts, evidencing the fact that milk in an incipient state of decomposition or which has partially decomposed in the course of drying is being employed. Since some of these products are being used for infant feeding it is important to ascertain that the products intended for this use be made under conditions which are beyond criticism.

(2) (a) Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$3,000 for additional work on shrimp and crabmeat. Fish and shellfish of all descriptions are highly perishable and require constant surveillance to insure that interstate shipments of the fresh and canned article are suitable for consumption. The allotments heretofore given and that assigned during the current year have been utilized for supervision of canned sardines, canned tuna, canned salmon, canned oysters, canned clams, fresh shellfish including scallops, and imported and domestic fish infested with parasites. Available funds are sufficient only to give a moderate degree of coverage to traffic in these fish products. Recently it has become evident that some intensive surveillance must be accorded canned shrimp and the fresh crabmeat industry. Shipments of the latter product from insanitary establishments have been definitely demonstrated to have caused serious illness. If the increase request is granted, \$3,000 will be available to extend inspection work to these particular types of fish products.

(3) (a) Apparent increase of \$190 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$3,000 for extending supervision for spray residue to other fruits than apples and pears. Under this project the terms of the Federal food and drugs act are applied to dried fruit products, the vast volume of canned fruit that enters interstate commerce and to the domestic fresh fruit industry. The fresh fruit industry has been threatened with enormous losses due to the possible exclusion of American fruit from the European markets on account of excessive spray residue. The tolerance for spray residue has gradually been reduced and during the season of 1933 has reached the world tolerance. This is necessary to protect the public health and prevent irreparable injury to the fruit industry that would inevitably result through the action of foreign Governments unless the world tolerance for arsenic is maintained. The more rigid tolerance now maintained for spray residue on fruit makes it necessary to extend regulatory work to additional sections of the country. Up to this time attention has been centered chiefly upon spray residue removal from apples and pears since these are the two most important commercial fruits which may bear excessive spray residue. It is essential also that attention be given to other fruits than apples and pears. This can be done only to a very limited extent with available funds. The \$3,000 increase submitted for this project will be used to extend the spray residue work to the other fruits.

(4) (a) Apparent increase of \$100 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$2,000 for extending supervision for spray residue to certain vegetable products. Under this project canned vegetables imported into this country or shipped in interstate commerce are regularly examined. It has been necessary during recent years to give especial attention to imported non-acid canned vegetables since it has been found that some of these are underprocessed and non-sterile, thus becoming potentially dangerous to health. The vast domestic canned vegetable industry must be inspected regularly in order to reduce to the minimum such violations as slack-fill, too much water, the use of spoiled or otherwise unfit raw materials, short weight or volume, underprocessing and the like. It is also necessary to inspect the great

volume of fresh vegetables shipped into interstate commerce. Attention has already been given to some vegetables, especially celery and cabbage, to see that they do not contain excessive spray residue which might be injurious to the health of consumers. Sprays are being used more generally and more heavily on vegetable products than formerly. The work of spray residue control on vegetables was especially heavy in 1932 and 1933. Undoubtedly additional work should be undertaken in 1934 to cover all the vegetable products on which sprays are used. This is not possible with existing funds. The \$2,000 asked will be used to extend the spray residue work on vegetables.

(5) \$87,485 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

This appropriation provides for enforcing the food and drugs act, commonly called the pure food law, approved June 30, 1906 (U.S.C., title 21, Secs. 1-15). The purpose of this act is to prevent the shipment in interstate or foreign commerce, and the manufacture and sale in the District of Columbia and other territory in which the Federal Government has jurisdiction, or adulterated or misbranded foods and drugs. To enforce this act it is necessary to maintain supervision of the enormous volume of foods and drugs shipped in its jurisdiction. This requires the inspection of food factories, and the examination of shipments of foods and drugs, the analysis of samples and the presentation of evidence in court.

(c) ENFORCEMENT OF THE TEA IMPORTATION ACT

| | |
|------------------------------------|----------|
| <u>Appropriation, 1932</u> | \$44,030 |
| <u>Appropriation, 1933</u> | 41,630 |
| <u>Budget Estimate, 1934</u> | 38,647 |
| <u>Decrease</u> | 2,983 |

PROJECT STATEMENT

| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase or</u>
<u>Decrease</u> |
|--|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| Enforcement of the Tea Act | \$ 39,988 | \$ 41,630 | \$ 38,647 | \$2,983(1) |
| (1) <u>\$2,983 reduction on account of continuation of legislative furlough.</u> | | | | |

WORK UNDER THIS APPROPRIATION

To provide for expenses under the Tea Importation Act approved March 2, 1897, (U.S.C., title 21, secs. 41-50). Every consignment of tea imported into the United States is inspected both as to purity and quality. A board of tea experts determines a suitable standard for tea each year, and no tea for beverage purposes is permitted entry into the United States that falls below that standard. Before the enactment of the Tea Importation Act much low grade tea that was unfit for use was sent to the United States.

(d) ENFORCEMENT OF THE NAVAL STORES ACT

| | |
|------------------------------------|----------|
| <u>Appropriation, 1932</u> | \$39,600 |
| <u>Appropriation, 1933</u> | 37,200 |
| <u>Budget Estimate, 1934</u> | 32,599 |
| <u>Decrease</u> | 4,601 |

PROJECT STATEMENT

| <u>Project</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Decrease</u> |
|---|--------------------------------|---------------------------------|---------------------------------|-----------------|
| Enforcement of the
Naval Stores Act..... | \$33,970 | \$37,200 | \$32,599 | \$4,601 (1) |
| (1) The decrease of \$4,601 is explained as follows: | | | | |
| (a) A decrease of \$2,200 is to be effected by general reduction in expenditures. | | | | |
| (b) \$2,401 reduction on account of continuation of legislative furlough. | | | | |
| WORK UNDER THIS APPROPRIATION | | | | |

To provide for the enforcement of the Naval Stores Act approved March 3, 1923 (U.S.C. title 7, secs. 91-99). This act provides that the Secretary of Agriculture "shall examine, if practicable, upon request of any interested person, any naval stores and shall analyse, classify, or grade the same on tender of the cost thereof as required by him, under such regulations as he may prescribe. He shall furnish a certificate showing the analysis, classification or grade of such naval stores, which certificate shall be prima facie evidence of the analysis, classification, or grade of such naval stores and of the contents of any package from which the same may have been taken as well as of the correctness of such analysis, classification or grade and shall be admissible as such in any court."

The Secretary is authorized to purchase from time to time samples of spirits of turpentine and of anything offered for sale as such for the purpose of analysis, classification, or grading, and of detecting any violation of the Act. Naval Stores offered for import or export as well as naval stores that enter interstate commerce are subject to all the provisions of the Act.

(e) ENFORCEMENT OF THE INSECTICIDE ACT

| | |
|------------------------------------|-----------|
| <u>Appropriation, 1932</u> | \$225,458 |
| <u>Appropriation, 1933</u> | 212,358 |
| <u>Budget Estimate, 1934</u> | 197,805 |
| <u>Decrease</u> | 14,553 |

PROJECT STATEMENT

| <u>Project</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase</u>
<u>or decrease</u> |
|---|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| Inspection of domestic and import
shipment of insecticides and
fungicides, development of cases
and State cooperation..... | \$58,550 | \$59,567 | \$59,617 | \$+ 50 |
| Chemical, microscopic and bacteri-
ologic examinations of insecticides
and fungicides (including disin-
fectants) | 97,438 | 97,598 | 97,623 | + 25 |
| Testing of efficacy of fungicides
and action on foliage of insecti-
cides | 26,500 | 26,680 | 26,690 | + 10 |
| Testing of efficacy of insecticides
and their action on foliage | 28,300 | 28,513 | 28,538 | + 25 |
| Legislative furlough deduction ... | - - - | - - - | -14,663 | -14,663 |
| Total | 210,788 | 212,358 | 197,805 | -14,553 (1) |

(1) The decrease of \$14,553 is explained as follows:

(a) \$14,663 reduction on account of continuation of legislative furlough.

b. Apparent increase of \$110 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

WORK UNDER THIS APPROPRIATION

To provide for enforcing the Insecticide Act approved April 26, 1910 (U.S.C. title 7, secs. 121-134). The Insecticide Act makes illegal the manufacture, sale or transportation in interstate commerce of adulterated or misbranded insecticides and fungicides, as well as their importation and exportation. It contains definite standards to which all lead arsenates and Paris greens subject to it should conform. It provides that all insecticides and fungicides, other than lead arsenates and Paris greens, that contain inert ingredients shall bear, upon the face of the principal label of every package, a statement giving the name and quantity of each inert ingredient of the preparation with a statement that such ingredient is inert, or, instead, a statement giving the name and quantity of each active ingredient, with the percentage of the combined inert ingredients. The principal labels for insecticides, other than lead arsenate and Paris green, and for fungicides that contain arsenic or compounds of arsenic, must show the percentage of arsenic present. Any false or exaggerated claim as to the efficacy of an insecticide or fungicide constitutes a violation of the law. The act demands further that all insecticides and fungicides must be up to the standards under which they are sold and that no insecticide or fungicide shall contain any substance or substances that will injure the plant on which it may be used.

(f) ENFORCEMENT OF THE MILK IMPORTATION ACT

| | |
|------------------------------------|----------|
| <u>Appropriation, 1932</u> | \$53,030 |
| <u>Appropriation, 1933</u> | 29,600 |
| <u>Budget Estimate, 1934</u> | 18,360 |
| Decrease | 11,240 |

PROJECT STATEMENT

| <u>Project</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Decrease</u> |
|---|--------------------------------|---------------------------------|---------------------------------|-----------------|
| Enforcement of the Milk Importation Act | \$32,135 | \$29,600 | \$18,360 | \$11,240 (1) |

(1) The reduction of \$11,240 is explained as follows:

(a) \$10,000 reduction for the reason that the volume of milk and cream imported into the United States has fallen off and this has made it possible to inspect milk and cream coming in with a smaller staff.

(b) \$1,240 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

To provide for expenses in enforcing the Milk Importation Act approved February 15, 1927 (U.S.C., Supp. IV, title 21, secs. 141-149). The Milk Importation Act provides for inspection both at the source and at the ports of entry. The work of enforcing this Act, therefore, involves the supervision

of the sanitary inspection of Canadian shipping plants and dairies from which milk is shipped to the United States and supervision of the physical examination and in most instances tuberculin test once a year of cattle from herds producing milk shipped to the United States, this work being carried out in collaboration with Canadian officials as authorized by the Act; it also involves the bacteriological examination and temperature tests of sufficient representative samples of all imported milk and cream, to insure compliance with the Act at ports of entry. Milk may be brought into the United States at any port along the Canadian border, but the bulk of the milk and cream comes in through ports of entry in New York and the New England states.

(g) ENFORCEMENT OF THE CAUSTIC POISON ACT

| | |
|------------------------------------|---------------|
| Appropriation, 1932 | \$26,790 |
| <u>Appropriation, 1933</u> | <u>25,360</u> |
| <u>Budget Estimate, 1934</u> | <u>23,719</u> |
| Decrease | 1,641 |

PROJECT STATEMENT

| <u>Project</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Decrease</u> |
|--|--------------------------------|---------------------------------|---------------------------------|-----------------|
| Enforcement of Caustic
Poison Act | \$22,887 | \$25,360 | \$23,719 | \$1,641 (1) |

(1) The decrease of \$1,641 is explained as follows:

(a) Apparent increase of \$30 by transfer from "Salaries, Office of the Secretary," which has been correspondingly reduced, as pro rata of supply handling charges for 1934.

(b) \$1,671 reduction on account of continuation of legislative furlough.

WORK UNDER THIS APPROPRIATION

To provide for the expenses in connection with enforcing the Caustic Poison Act, approved March 4, 1927 (U.S.C., Supp. IV, title 15, secs. 401-411). The Caustic Poison Act imposes upon the department the obligation of seeing that the large number of preparations containing caustic or corrosive substances and sold in interstate or foreign commerce for household use are correctly labeled with the common name of the substance, with the word "Poison", with directions for treatment in case of accidental personal injury, and with the name and place of business of the manufacturer, packer, seller or distributor. To enforce this Act, samples must be collected from the products determined by chemical analysis, and such tests made as will establish whether any or all of the ingredients are caustic or corrosive, and whether the directions given in case of injury are correct and adequate.

Limitation on Purchase of Passenger Carrying Vehicles.

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Department authorization for 1933 is \$9,200. The authorization for 1934, \$9,200, therefore is no increase.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and a statement of the results achieved. It is a statement of the work done and a statement of the results achieved.

2. The second part of the report deals with the work done during the year. It is a statement of the work done and a statement of the results achieved. It is a statement of the work done and a statement of the results achieved.

3. The third part of the report deals with the work done during the year. It is a statement of the work done and a statement of the results achieved. It is a statement of the work done and a statement of the results achieved.

4. The fourth part of the report deals with the work done during the year. It is a statement of the work done and a statement of the results achieved. It is a statement of the work done and a statement of the results achieved.

5. The fifth part of the report deals with the work done during the year. It is a statement of the work done and a statement of the results achieved. It is a statement of the work done and a statement of the results achieved.

6. The sixth part of the report deals with the work done during the year. It is a statement of the work done and a statement of the results achieved. It is a statement of the work done and a statement of the results achieved.

INTERCHANGE OF APPROPRIATIONS

This paragraph permits interchange, within the limitations indicated, of appropriations for the miscellaneous expenses of the work of any bureau, division, or office. It has been carried in the bill for many years, and constitutes an administrative arrangement of great value, especially when emergencies arise.

As called for in the proviso, a statement of the transfers during the fiscal year 1932 is inserted in the Budget under this item.

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MISCELLANEOUS

Work for other Departments

Under this item the Department of Agriculture renders services, such as inspections, analyses, and tests of food and other products, to other Government agencies upon request, with transfer of appropriations to the Department of Agriculture in such amounts as may be necessary for the performance of the work. Services of the character indicated are rendered to the Army, Navy, and Marine Corps, the Veterans' Administration, the Post Office Department, and other Government agencies. This provision is of vital importance to the most advantageous use, for the benefit of the Government as a whole, of the various services which the staff of the Department of Agriculture is in position to render.

EXPERIMENTS AND DEMONSTRATIONS IN LIVESTOCK PRODUCTION

Appropriation, 1932.....\$43,500

- - -

Appropriation, 1933..... 41,325

Budget Estimate, 1934..... 39,560

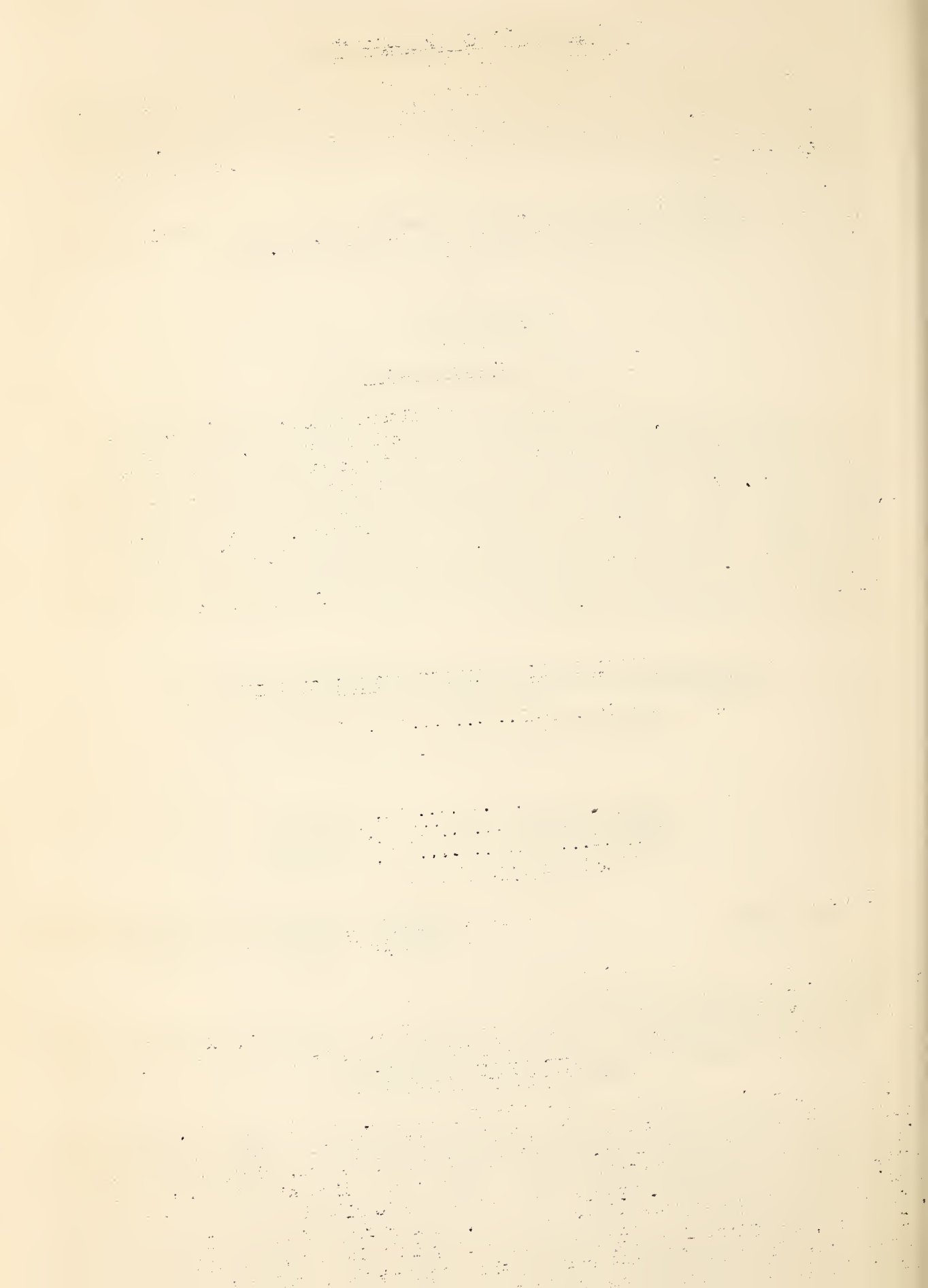
Decrease..... 1,765

PROJECT STATEMENT

| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Decrease</u> |
|--|--------------------------------|---------------------------------|---------------------------------|-----------------|
| Experiments in livestock production | | | | |
| in the cane-sugar and cotton | | | | |
| districts of Southern United States | \$43,500 | \$41,325 | \$39,560 | \$1,765 |
| (1) <u>\$1,765 reduction</u> on account of continuation of legislative furlough. | | | | |

WORK UNDER THIS APPROPRIATION

This is a regional station located by Jeanerette, near New Iberia, La., to determine the proper feeding, breeding, and handling of dairy and beef cattle and pigs in the Gulf Coast country. The by-products of cotton, rice, and sugar are tried out as animal feeds with a view of encouraging diversified farming by the raising of more livestock. Investigations are made also in the establishment, improvement, and utilization of pastures. The Bureau of Animal Industry, Dairy Industry, and Plant Industry are cooperating in this work. Experiments with horses have the object of determining the comparative usefulness of mules and horses for the farm work of the region.



PASSENGER-CARRYING VEHICLES

To permit of more direct and at the same time more convenient consideration of the authorization for the purchase of passenger-carrying vehicles, the aggregate authorization heretofore carried in the bill for the Department as a whole has been omitted, and in lieu thereof specific authorizations have been inserted in the text pertaining to the several bureaus requiring purchase of such vehicles during the fiscal year 1934. Under this form of presentation, the Appropriations Committee will be enabled to consider this phase of contemplated expenditure in direct connection with the work and general estimates of each bureau when the bureau head appears before the Committee and explains the primary objectives, in connection with which vehicles are required.

The special language heretofore carried in the lump sum item to cover procurements of the Bureau of Public Roads and the Forest Service, in connection with road construction, also is omitted, since these items now appear under the two bureaus involved.

The total estimates of all bureaus, as set forth in the individual limitations pertaining thereto for 1934, is \$217,440, a decrease of \$32,560 from the total authorization of \$250,000 for 1933.

New language is included to provide for interchangeability of the bureau authorizations. Under former authorizations allotments for the several bureaus were left to the head of the Department, a flexible procedure which will be lost under the new forms of presentation unless the new language shown is inserted. It is highly important that provision be made to continue this interchangeability feature, for without it the Department will not be able to meet emergency or other unforeseen needs arising from time to time. Such an arrangement will continue to provide for meeting emergencies without the delay and added routine procedure involved in requesting additional legislation. Experience has shown that on many occasions it would have been impossible, without this interchangeability feature, to meet the sudden requirements of the service, especially during the periods when Congress was not in session or when there was no bill pending in which such routine operating authority could be secured promptly.

The restriction in connection with administrative work of the Bureau of Public Roads in the District of Columbia is omitted from the general item since it has been included in the automobile language submitted under the Bureau of Public Roads.

In connection with the general authorization for the maintenance, operation, and repair of vehicles, the restriction on expenditures for that purpose has been omitted, since a general provision covering this point applicable to all departments is submitted in the Budget estimates under the heading of the Treasury Department. General language is submitted, similarly, under the Treasury-Post Office estimates, superseding the proviso restricting purchase of any passenger vehicle to a cost not in excess of \$750, except as to 10% of the expenditures for this purpose, and defining the term "official use" which also is omitted from the estimates covering the Department of Agriculture.

COLLECTION OF SEED LOANS

Appropriation, 1932..... \$125,000

Appropriation, 1933..... 500,000*

Budget Estimate, 1934..... 500,000*

PROJECT STATEMENT

| Project
For Administration and
Collections | <u>Expended 1932</u> | <u>Estimated 1933</u> | <u>Estimated 1934</u> |
|--|----------------------|-----------------------|-----------------------|
| Collection of 1931 and
Prior Seed Grain Loans
from Annual Agricultural
Appropriation Act. | \$111,238(a) | \$500,000* | \$500,000* (1) |

* Reappropriated for 1933 from unexpended balances of prior loan appropriations and estimated for 1934 from repayments thereunder.

(a) Exclusive of \$1,227,811 from appropriation for Loans to Farmers in Drought and Storm Stricken Areas, Emergency Relief, 1931-32, and \$50,585 from appropriation for Loans to Farmers in Drought and Storm Stricken Areas, Southeastern States, 1931-1932, expended for administrative and collection expenses for fiscal year 1932, making a total expenditure for the fiscal year 1932 of \$1,389,634.

- - - - -

(1) The estimate contemplates making available for collection purposes \$500,000 from repayments made during the fiscal year 1933. This amount is needed for collection expenses during 1934 on the uncollected loans estimated on July 1, 1933, to be in excess of \$20,000,000.

The necessity for this amount lies in the fact that during the fiscal years 1931 and 1932 loans were made in 31 states affected by drought and storms totaling \$57,223,775. Included in this amount was \$1,453,024 loaned to agricultural and livestock credit associations. In addition, \$8,829,555, included in the above amount was loaned since July 1, 1931, in several of the northwestern states affected by drought for the purpose of feeding livestock, which loans matured on September 30, 1932. Effort is also being made to collect outstanding loans made prior to 1931.

It is estimated that a larger percentage of the seed loans made in the spring of 1931 and the livestock loans made in the fall of 1931 and the spring of 1932 will remain unpaid at the end of the fiscal year 1933 to be collected during the fiscal year 1934 than in the case of any of the preceding loans. Statement of condition as of June 30, 1932, of the various seed loans is shown in the following tabulation:

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Reference:

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| 92. Hydrosphere | 92 |
| 93. Atmosphere | 93 |
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| 95. Pedosphere | 95 |
| 96. Biosphere | 96 |
| 97. Geosphere | 97 |
| 98. Hydrosphere | 98 |
| 99. Atmosphere | 99 |
| 100. Lithosphere | 100 |

June 30, 1932.

| Appropriation | Cash collections to June 30, 1932 | | | Principal outstanding July 1, 1932 | Est. Prin. outstanding July 1, 1933 |
|--|-----------------------------------|-----------------|--------------|------------------------------------|-------------------------------------|
| | Amount Loaned | Principal | % Col-lected | Interest | |
| Act of Mar. 5, 1921
N. W. States
\$2,000,000 | \$ 1,957,407.20 | \$ 1,377,939.78 | 70.4 | \$ 122,714.70 | \$ 579,467.42 |
| Act of Mar. 20, 1922
N. W. States
1,500,000 | 1,480,106.69 | 1,154,081.27 | 78.0 | 60,573.84 | 326,025.42 |
| Act of Apr. 26, 1924
New Mexico
1,000,000 | 413,983.15 | 284,781.41 | 68.8 | 23,344.96 | 129,201.74 |
| Act of Feb. 28, 1927
Florida
250,000 | 244,204.68 | 108,347.50 | 44.4 | 11,821.50 | 135,857.18 |
| Act of Feb. 25, 1929
S. E. States
6,000,000 | 5,758,650.34 | 4,679,177.72 | 81.3 | 145,516.99 | 1,079,472.62 |
| Act of Mar. 3, 1930
N. W., Central, S. E.
States & New Mexico
6,000,000 | 5,340,727.38 | 3,376,337.33 | 63.2 | 127,436.56 | 1,964,390.05 |
| Act of December 20, 1930
Drought & Storm
Stricken Areas
45,000,000 | 39,633,728.77 | 14,143,062.13 | 35.7 | 89,794.90 | 25,490,666.64 |
| Act of Feb. 14, 1931
Drought & Storm
Stricken Areas
20,000,000 | 14,264,559.31 | 1,280,951.64 | 9.0 | 8,152.12 | 12,983,607.67 |
| Act of Feb. 23, 1931
S. E. States, 2,000,000 | 1,872,432.77 | 605,800.02 | 32.4 | 2,155.78 | 1,266,632.75 |
| TOTAL 83,750,000 | 70,965,800.29 | 27,010,478.80 | 38.1 | 591,516.35 | 43,955,321.49 |
| Estimated value of
warehouse rec'ts held | | +12,175,238.91 | | | -12,175,238.91 |
| Approx. amount of
interest withheld | | | | 1,700,000.00 | (a) |
| TOTAL 83,750,000 | 70,965,800.29 | 39,185,717.71 | 55.2 | 2,291,516.35 | 31,780,082.58 |
| (a) Collection of \$1,324,899.36 principal and interest made from July 1 to Oct. 25, 1932. | | | | | 20,000,000 |

ACTIVITIES UNDER THIS APPROPRIATION

The appropriation requested is necessary in order to maintain regional field offices and to effectively carry on an adequate collection campaign during the fiscal year 1934. The appropriation provides for the force engaged in collecting the various loans authorized by Congress under appropriations directly to the Department of Agriculture. Field offices are maintained at Memphis, Tennessee; Dallas, Texas; St. Louis, Missouri; Minneapolis, Minnesota; Salt Lake City, Utah; Spokane, Washington; and Washington, D. C.

[illegible]

SOIL EROSION INVESTIGATIONS

Bureaus of Chemistry and Soils and Agricultural Engineering
(Forest Service shown separately on subsequent pages)

| | <u>Fiscal</u>
<u>Year</u> | <u>Allotments to Bureau of</u>
<u>Chemistry and Soils</u> | <u>Agricultural</u>
<u>Engineering</u> | <u>Total</u> |
|---------------------|------------------------------|--|---|--------------|
| Appropriation | 1932 | \$156,850 | \$73,150 | \$230,000 |
| Appropriation | 1933 | 100,000 | 100,000 | 200,000 |
| Budget Estimate ... | 1934 | 100,000 | 100,000 | 200,000 |

PROJECT STATEMENT

| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase or</u>
<u>decrease</u> |
|-------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| <u>Soil Erosion Stations-</u> | | | | |
| <u>Guthrie, Okla.</u> | | | | |
| Chemistry and Soils | \$11,980 | \$ 9,300 | \$ 9,300 | - - |
| Agricultural Engineering | 4,854 | 6,400 | 6,400 | - - |
| Total | 16,834 | 15,700 | 15,700 | - - |
| <u>Hays, Kans.</u> | | | | |
| Chemistry and Soils | 7,967 | 8,000 | 8,000 | - - |
| Agricultural Engineering | 3,638 | 5,050 | 5,050 | - - |
| Total | 11,605 | 13,050 | 13,050 | - - |
| <u>Temple, Texas</u> | | | | |
| Chemistry and Soils | 11,070 | 9,250 | 9,250 | - - |
| Agricultural Engineering | 4,222 | 6,300 | 6,300 | - - |
| Total | 15,292 | 15,550 | 15,550 | - - |
| <u>Tyler, Tex.</u> | | | | |
| Chemistry and Soils | 11,182 | 9,200 | 9,200 | - - |
| Agricultural Engineering | 6,970 | 8,400 | 8,400 | - - |
| Total | 18,152 | 17,600 | 17,600 | - - |
| <u>Bethany, Mo.</u> | | | | |
| Chemistry and Soils | 13,856 | 10,000 | 10,000 | - - |
| Agricultural Engineering | 9,451 | 11,350 | 11,350 | - - |
| Total | 23,307 | 21,350 | 21,350 | - - |
| <u>Statesville, N. C.</u> | | | | |
| Chemistry and Soils | 12,944 | 9,250 | 9,250 | - - |
| Agricultural Engineering | 5,873 | 9,400 | 9,400 | - - |
| Total | 18,817 | 18,650 | 18,650 | - - |
| <u>Pullman, Wash.</u> | | | | |
| Chemistry and Soils | 13,984 | 9,800 | 9,800 | - - |
| Agricultural Engineering | 5,432 | 7,900 | 7,900 | - - |
| Total | 19,416 | 17,700 | 17,700 | - - |

| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase or</u>
<u>decrease</u> |
|-------------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| <u>Clarinda, Iowa</u> | | | | |
| Chemistry and Soils | 18,392 | 10,900 | 10,900 | - - |
| Agricultural Engineering | <u>10,363</u> | <u>11,000</u> | <u>11,000</u> | - - |
| Total | <u>28,755</u> | <u>21,900</u> | <u>21,900</u> | - - |
| <u>La Crosse, Wis.</u> | | | | |
| Chemistry and Soils | 6,850 | 8,700 | 8,700 | - - |
| Agricultural Engineering | <u>7,818</u> | <u>8,600</u> | <u>8,600</u> | - - |
| Total | <u>14,668</u> | <u>17,300</u> | <u>17,300</u> | - - |
| <u>Zanesville, Ohio.</u> | | | | |
| Chemistry and Soils | 5,340 | 9,700 | 9,700 | - - |
| Agricultural Engineering | <u>2,472</u> | <u>12,000</u> | <u>12,000</u> | - - |
| Total | <u>7,812</u> | <u>21,700</u> | <u>21,700</u> | - - |
| <u>Raleigh, N. C.</u> | | | | |
| Agricultural Engineering | <u>224</u> | <u>500</u> | <u>500</u> | - - |
| <u>Field Office, Guthrie, Okla.</u> | | | | |
| Agricultural Engineering | <u>11,803</u> | <u>7,800</u> | <u>7,800</u> | - - |
| <u>Washington Headquarters</u> | | | | |
| Chemistry and Soils | <u>7,900</u> | <u>5,900</u> | <u>5,900</u> | - - |
| <u>General Investigations</u> | | | | |
| Agricultural Engineering | - - | <u>5,000</u> | <u>5,000</u> | - - |
| Grand total | 194,615 | 200,000 | 200,000 | - - |

WORK UNDER THIS APPROPRIATION

This project is conducted jointly by the Bureaus of Chemistry and Soils and Agricultural Engineering under allotments as shown above. A separate allotment is made to the Forest Service, as shown under Erosion-Streamflow Investigations. The Bureau of Chemistry and Soils is concerned with investigations to determine the causes of erosion, and to devise farm practices and cropping systems for the prevention or control of erosion, for the conservation of rainfall, and for the renewal of eroded lands. The Bureau of Agricultural Engineering is concerned with developing types of erosion control works most suitable for the climatic and soil conditions under which they operate, to develop economical methods of constructing such works, and to determine the requirements of various types of farm machinery for efficient operation over terraced land. The Forest Service is concerned with erosion-stream flow investigations on forest and range lands to determine the effect of forest, brush, or range cover on erosion and stream flow, and to develop methods which will conserve soil fertility and moisture for forest and forage crops and deliver the maximum amount of usable water for irrigation, municipal use, power, navigation, etc. The ultimate purpose of all these investigations is to develop a comprehensive program of soil erosion control for the entire United States.

The first part of the paper discusses the general principles of the theory of the atom. It is shown that the atom is a system of particles, which are subject to the laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The second part of the paper discusses the application of the theory to the case of a diatomic molecule. It is shown that the molecule can be treated as a system of two particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The third part of the paper discusses the application of the theory to the case of a polyatomic molecule. It is shown that the molecule can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The fourth part of the paper discusses the application of the theory to the case of a crystal. It is shown that the crystal can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The fifth part of the paper discusses the application of the theory to the case of a liquid. It is shown that the liquid can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The sixth part of the paper discusses the application of the theory to the case of a gas. It is shown that the gas can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The seventh part of the paper discusses the application of the theory to the case of a solid. It is shown that the solid can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The eighth part of the paper discusses the application of the theory to the case of a plasma. It is shown that the plasma can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The ninth part of the paper discusses the application of the theory to the case of a neutron star. It is shown that the neutron star can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

The tenth part of the paper discusses the application of the theory to the case of a black hole. It is shown that the black hole can be treated as a system of many particles, which are subject to the same laws of mechanics. The motion of the particles is determined by the forces acting on them. The forces are of two kinds: attractive and repulsive. The attractive forces are due to the electric and magnetic interactions between the particles. The repulsive forces are due to the Pauli exclusion principle, which prevents two particles from occupying the same state.

Bureau of Chemistry and Soils

The objects of these investigations are to determine the causes of erosion and to devise methods for the prevention or control of erosion, for the conservation of rainfall, and for the renewal of eroded lands. The work is conducted at erosion experiment stations located in the major soil regions of the United States. Stations have been established at Guthrie, Okla., Temple, Tex., Tyler, Tex., Hays, Kans., Bethany, Mo., Statesville, N. C., Pullman, Wash., Clarinda, Ia., La Crosse, Wis., and Zanesville, Ohio. The work includes determination of soil and water losses under various controlled conditions and their relation to character of soil, rainfall, etc., study of the effect of modification of soil conditions on erosion and runoff with a view to applying practical methods to general farm usage in the region; renewal of productivity of eroded land; study of relation of native vegetation to soil and water losses; study of relation of soil and water losses to yield and quality of crops; and determination of the best rotations, soil treatments, and cropping practices for erosion control. Soil erosion investigations are conducted in cooperation with the Bureau of Agricultural Engineering and with State Experiment Stations.

Bureau of Agricultural Engineering

The general purpose of the engineering investigations is to develop the types of erosion control works most suitable for the climatic and soil conditions under which they operate. Other aims are to develop economical methods of constructing such works, and to determine the requirements of various types of farm machinery for efficient operation over terraced land.

The work includes investigations relating to the design, construction and operation of various types of terraces and soil saving dams; the use of tile drains, and of subsoiling (both by machinery and with explosives) in controlling erosion; and the effects of various cultural practices used in connection with erosion control works. Measurements are being made of runoff and soil losses from watersheds of various characteristics, both terraced and unterraced; the operation of various types of farm machinery over terraced land is being studied; and improvements in machinery for constructing and maintaining terraces are being developed. All of the work is being conducted in cooperation with the Bureau of Chemistry and Soils and with the State experiment stations of the states in which the soil erosion experiment stations are located.

Forest Service Erosion-Streamflow Investigations

| | |
|-----------------------------------|-----------|
| <u>Appropriation, 1932.....</u> | \$100,000 |
| <u>Appropriation, 1933.....</u> | 89,160 |
| <u>Budget Estimate, 1934.....</u> | 83,814 |
| Decrease..... | 5,346 |

THE HISTORY OF THE UNITED STATES

CHAPTER I. THE DISCOVERY OF AMERICA.

THE first discovery of America was made by Christopher Columbus in 1492.

He sailed from Spain on the 3rd of September, and after a long voyage, he reached the island of San Salvador on the 12th of October.

He then sailed on to the island of Cuba, and then to the island of Hispaniola.

He then sailed on to the island of Puerto Rico, and then to the island of St. John.

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THE HISTORY OF THE UNITED STATES

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THE HISTORY OF THE UNITED STATES

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| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase or</u>
<u>decrease</u> |
|--------------------------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| <u>Appalachian Forest Experiment</u> | | | | |
| Station, headquarters at | | | | |
| Asheville, North Carolina | \$5,500 | \$5,800 | \$5,800 | - - |
| <u>California Forest Experiment</u> | | | | |
| Station, headquarters at | | | | |
| Berkeley, California | 30,000 | 27,700 | 27,700 | - - |
| <u>Intermountain Forest and</u> | | | | |
| <u>Range Experiment Station,</u> | | | | |
| headquarters at Ogden, | | | | |
| Utah | 18,000 | 19,000 | 19,000 | - - |
| <u>Lake States Forest Experi-</u> | | | | |
| <u>ment Station, headquarters</u> | | | | |
| at St. Paul, Minnesota ... | 5,000 | 4,800 | 4,800 | - - |
| <u>Southern Forest Experiment</u> | | | | |
| Station, headquarters at | | | | |
| New Orleans, Louisiana ... | 9,000 | 5,300 | 5,300 | - - |
| <u>Southwestern Forest and Range</u> | | | | |
| <u>Experiment Station, head-</u> | | | | |
| quarters at Tucson, Arizona | 21,500 | 22,760 | 22,760 | - - |
| Washington, D. C. | 4,000 | 3,800 | 3,800 | - - |
| Legislative furlough deduction | - | - | -5,346 | -5,346 |
| Total | 93,000 | 89,160 | 83,814 | -5,346 |

\$5,346 reduction on account of continuation of legislative furlough.
WORK UNDER THIS APPROPRIATION

Erosion on a serious scale is taking place on millions of acres of forest and range lands. It is menacing the agricultural life on irrigated lands through silting reservoirs and streams; it is increasing the necessity for dredging the channels of rivers and harbors; it is a contributory cause of floods and of the increasing low water stages in streams. It is responsible for decreased forage production on many western ranges. Nearly every watershed in the United States, regardless of size or importance, contains some portion of the 615 million acres of forest land or of the 587 million acres of western range land or both. The disastrous Mississippi flood among other floods of recent years, the rapidly increasing demand for irrigation water in various parts of the West, and the shortage of municipal water supplies have attracted much greater attention to both forest and range in relation to streamflow regulation and erosion control.

The purpose of erosion-streamflow investigations on forest and range lands is to determine the effect of forest, brush, or range cover, or of combinations of them on erosion and streamflow. It is to determine whether such vegetative cover may be used as the major means of obtaining satisfactory conditions of water flow and of controlling erosion on entire watersheds or important parts of watersheds, and, if so, whether it must be used in virgin condition or may be modified by cutting or grazing. It is to determine how to conserve soil fertility and moisture for the growing of forest and forage crops, and to deliver the maximum amounts of usable water for irrigation, municipal use, power, navigation, etc. It is to make waste lands productive, to protect against destructive floods, and to safeguard

The first part of the report deals with the general situation of the country. It is a very interesting and informative account of the country and its people. The second part of the report deals with the specific details of the country and its people. It is a very detailed and informative account of the country and its people. The third part of the report deals with the specific details of the country and its people. It is a very detailed and informative account of the country and its people.

| | | | |
|-------|-------|-------|-------|
| 10.10 | 10.10 | 10.10 | 10.10 |
| 10.10 | 10.10 | 10.10 | 10.10 |
| 10.10 | 10.10 | 10.10 | 10.10 |
| 10.10 | 10.10 | 10.10 | 10.10 |
| 10.10 | 10.10 | 10.10 | 10.10 |

The fourth part of the report deals with the specific details of the country and its people. It is a very detailed and informative account of the country and its people. The fifth part of the report deals with the specific details of the country and its people. It is a very detailed and informative account of the country and its people. The sixth part of the report deals with the specific details of the country and its people. It is a very detailed and informative account of the country and its people.

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public and private works, investments in which already run into hundreds of millions of dollars. In short, it is designed to furnish facts and remedial measures as a basis for action by Federal, State, and other agencies. Such investigations are being carried on by a series of forest and range experiment stations where a coordinated attack can be made upon the interrelated problems of forest and range.

An extensive survey of the Rio Grande watershed in New Mexico disclosed that erosion has been greatly accelerated during the occupancy of the white man. Erosion is more or less serious on 75 per cent of the watershed. The amount of erosion was found to be in inverse ratio to the density of the vegetation and due in large measure to overgrazing. If these conditions continue unchecked, a badlands formation will develop over a large area, and floods and sedimentation will imperil cities and the millions of dollars invested in irrigation works and in other improvements. Silt displacement in the Elephant Butte Reservoir in 17 years already amounts to almost 13 per cent of the storage capacity. A flood on the upper Rio Grande River in 1929 caused a loss of one million dollars, exclusive of damage to railroads, while the 1932 Rio Grande flood, caused enormous damage, as yet unestimated, besides the loss of many lives. Similarly on the Colorado River watershed in Utah, Colorado, and Wyoming, where values at stake are far greater, material erosion prevails on three-fourths of the area. Equally serious erosion is also found to prevail in the loessial soils in Wisconsin and Minnesota of the Upper Mississippi River Basin and in North Mississippi in the lower basin.

Detailed studies under carefully controlled conditions show that the removal of a chaparral cover by fire increases the surface run-off 15 or 20 times and increases the amount of soil eroded by 2300 times. Applied to the 100,000 acres annually burned over in Southern California, it would mean that over 400,000 cubic yards of silt and debris are annually washed down into the valuable orchards and fields of this section of the country and are causing additional hundreds of thousands of dollars damage to improvements.

Somewhat similar erosion studies in the Lake States and in the South show that the run-off from pasture or cultivated lands was more than ten times that from forest land while the erosion from abandoned agricultural land was 500 times greater. An intensive survey of 2 million acres in the bluff-lands along the lower Mississippi River showed erosion to be serious on half of the 400,000 acres of worn out and abandoned land, some containing gullies 200 feet deep. Such erosion is adding greatly to the dredging and flood problem of the Mississippi River.

The investigative work under this appropriation is developing fundamental facts essential to an effective understanding of the important factors in the whole complex problem of run-off and erosion on forest and range lands. It has shown that vegetation is a conservator of precipitation for beneficial use through keeping the soil in a porous condition capable of maximum absorption of water to underground supplies. It has also developed many promising possibilities for restoring more stable soil conditions on eroding areas through the reestablishment of depleted forest and range cover.

Limitation on Purchase of Passenger Carrying Vehicles

The language authorizing and limiting the expenditure for purchase of passenger carrying vehicles is submitted in connection with the total for the bureau in order to provide for consideration of this item at the same time the general estimates of the bureau are under consideration. The purchase authorization of the bureau from the general Departmental authorization for 1933 is \$---. The authorization for 1934, \$650, therefore constitutes an increase of \$650.

FOREST ROADS AND TRAILS

Appropriation, 1932 \$12,500,000

Appropriation, 1933 8,905,000

Budget Estimate, 1934 6,457,400

Decrease 2,438,600

PROJECT STATEMENT

| <u>Projects</u> | <u>Expended</u>
<u>1932</u> | <u>Estimated</u>
<u>1933</u> | <u>Estimated</u>
<u>1934</u> | <u>Increase or</u>
<u>decrease</u> |
|---|--------------------------------|---------------------------------|---------------------------------|---------------------------------------|
| <u>Forest Highways</u> | | | | |
| Construction and maintenance
of Forest Roads of Primary
Importance to States and
Counties | \$9,562,663 | \$5,905,000 | \$6,540,000 | + \$635,000(1) |
| <u>Forest Road Development</u> | | | | |
| Construction and maintenance
of Forest Roads and Trails of
Primary Importance to Protec-
tion and Utilization of the
National Forests | 2,718,814 | 3,000,000 | -- | -3,000,000(2) |
| Legislative furlough deduction | -- | -- | -82,600 | -82,600 (3) |
| Total..... | 12,281,477 | 8,905,000 | 6,457,400 | -2,438,600 |

(1) The increase of \$635,000 in Forest Highways is explained as follows:

This increase is needed to cover the amount authorized to be appropriated for the fiscal year 1933. Under the 1933 Appropriation Act only \$5,960,000 of the 1933 authorization of \$12,500,000 was appropriated. The remainder, \$6,540,000 in the authorization pertains to Forest Highways and will be needed to meet contractual obligations arising under the authorization.

(2) The decrease of \$3,000,000 in Forest Road Development is explained as follows:

The Forest Roads and Trails appropriation of which this item is a part is authorized by the Federal Highway Act approved November 9, 1921. It has been the practice for some years to obtain from Congress a more specific authorization under the Act of November 9, 1921, as to the exact amount to be appropriated. However, S. 36, authorizing appropriations for the fiscal years 1934 and 1935, failed of passage at the last session of Congress and specific authorizations for these years are not available. The entire amount of the 1933 authorization which is applicable to Forest Development Roads has been appropriated and in the absence of a specific authorization for the fiscal year 1934, no estimate is included.

(3) \$82,600 reduction on account of continuation of legislative furlough.

[illegible][illegible]

CHANGE IN LANGUAGE

It is recommended that, beginning in the fourth line, the following language be omitted:

"8,905,000, which sum is composed of \$2,945,000, part of the sum of \$12,500,000 authorized to be appropriated for the fiscal year 1932 by the Act approved May 5, 1930 (46 Stat., p. 261), and \$5,960,000, part"

This language, which pertains to appropriations under the fiscal year 1932 and 1933 authorizations, is not applicable to 1934 as there is no 1934 authorization.

It is recommended, that the entire first, second and third provisions reading as follows be eliminated since they pertain to the apportionment of the 1933 authorization and there is no similar authorization for the fiscal year 1934:

"Provided, That the Secretary of Agriculture shall, upon the approval of this Act, apportion and prorate among the several States, Alaska, and Porto Rico, as provided in section 23 of said Federal Highway Act, the sum of \$12,500,000 authorized to be appropriated for the fiscal year ending June 30, 1933, by the Act approved May 5, 1930: Provided further, That the Secretary of Agriculture shall incur obligations, approve projects, or enter into contracts under his apportionment and prorating of this authorization, and his action in so doing shall be deemed a contractual obligation on the part of the Federal Government for the payment of the cost thereof: Provided further, That the total expenditures on account of any State or Territory shall at no time exceed its authorized apportionment:"

The word "further" in the words "Provided further" should be eliminated from the fourth proviso since it will become the first proviso with the elimination of the first three recommended above.

In the last proviso, it is contemplated that the proviso be made applicable to the fiscal year 1934 by changing 1933 to 1934 in the first line. The following language in this proviso is eliminated since it applies to the authorization for 1933 and the appropriation thereof and there is no similar authorization for the fiscal year 1934:

"(and the apportionment for forest highways in Alaska from the sum of \$12,500,000 authorized to be appropriated for the fiscal year 1933 shall be \$350,000)."

WORK UNDER THIS APPROPRIATION

This appropriation is made for forest roads and trails under the provisions of Section 23 of the Federal Highway Act of November 9, 1921. It is divided into two parts, the Forest Highway Fund and the Forest Road Development Fund. The Forest Highway Fund is expended for roads necessary to

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the Forests but of primary importance to the State, counties, or communities within, adjoining, or adjacent to the National Forests, and which form important links in the highway systems of the States. The Forest Road Development Fund is appropriated and expended for roads and trails of primary importance to the administration, protection and utilization of the National Forests.

The Forest Road System as planned includes 84,756 miles of road and 165,058 miles of trails. The road system when completed will provide a mile of road for 2,583 acres, or 4.0 square miles as an average.

BUILDINGS, GOVERNMENT ISLAND, CALIFORNIA (1931-1934)

The appropriation of \$800,000 for the construction on Government Island, Alameda, California, of buildings required by the Bureau of Public Roads and Forest Service of the Department of Agriculture and the Coast Guard of the Treasury Department, contained in the Act entitled "An Act making supplemental appropriations for the fiscal years ending June 30, 1931, and June 30, 1932," approved March 4, 1931, is hereby continued available during the fiscal year [1933] 1934.

The language submitted in the Budget as shown above is necessary in order to make available until June 30, 1934, the unexpended balance (estimated at \$80,000) of the \$800,000 appropriated by the Second Deficiency Act approved March 4, 1931, (46 Stat., p. 1563), providing for the construction on Government Island, Alameda, California, of a supply depot, warehouse, and shops for the Bureau of Public Roads and the Forest Service of the Department of Agriculture, and for a supply depot, warehouse, shops, garage, living quarters, and a marine railway for boats for the Coast Guard of the Treasury Department, and a joint administration building for all three of these services. Continuation of the availability of this appropriation is necessary in view of the fact that it is not certain that all obligations arising in connection with this project will be made prior to June 30, 1933, and to provide for necessary supervision, etc., during the fiscal year 1934. This appropriation is being administered by the Bureau of Public Roads.

HIGHWAYS WITHIN NATIONAL FORESTS, EMERGENCY CONSTRUCTION

[For the construction and improvement of national-forest highways, \$5,000,000;] The appropriation of \$5,000,000 contained in the Act entitled "An Act to relieve destitution, to broaden the lending powers of the Reconstruction Finance Corporation, and to create employment by providing for and expediting a public-works program," approved July 21, 1932, is hereby continued available during the fiscal year 1934."

The schedule contained in the Budget indicates expenditures under this item for Emergency Construction in 1931.

It is expected that all of this appropriation for 1933 will be obligated on specific projects before June 30, 1933. To provide for adjustments between projects after June 30, 1933, on account of underruns and overruns it is desirable to continue the unexpended balance available for obligation after June 30, 1933.

CHICAGO WORLD'S FAIR CENTENNIAL CELEBRATION

[SEC. 2. For the purpose of carrying into effect the provisions of the Act entitled "An Act providing for the participation of the United States in A Century of Progress (the Chicago World's Fair Centennial Celebration), to be held at Chicago, Illinois, in 1933, authorizing an appropriation therefor, and for other purposes," approved February 8, 1932, and for each and every object thereof, and within the limits of cost specified therein, to be immediately available and to remain available until June 30, 1934, \$1,000,000] (act July 7, 1932, 47 Stat., p. 645).

Note.--The foregoing item, which was carried in the Agricultural Appropriation Act for 1933 is omitted from the estimates for 1934. The appropriation of \$1,000,000 was transferred to "Independent Establishments."

[SEC. 3. No appropriation under the Department of Agriculture available during the fiscal years 1932 and/or 1933 shall be used after the date of the approval of this Act to pay the compensation of an incumbent appointed to any position under the Federal Government which is vacant on the date of the approval of this Act or to any such position which may become vacant after such date: Provided, That this inhibition shall not apply (a) to absolutely essential positions the filling of which may be authorized or approved in writing by the President of the United States, either individually or in groups, or (b) to temporary, emergency, seasonal, and cooperative positions. The appropriations or portions of appropriations unexpended by the operation of this section shall not be used for any other purposes but shall be impounded and returned to the Treasury, and a report of all such vacancies, the number thereof filled, and the amounts unexpended, for the period between the date of the approval of this Act and October 31, 1932, shall be submitted to Congress on the first day of the next regular session. Provided, That such impounding of funds may be waived in writing by the President of the United States in connection with any appropriation or portion of appropriation, when, in his judgment, such action is necessary and in the public interest] (act July 7, 1932, 47 Stat., pp. 645, 646).

Note.--The foregoing provision which appeared in the Agricultural Appropriation Act for 1933 is omitted in the estimates for 1934 as this matter was covered by general legislation on the same subject in the Economy Act.

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